

**MAKING IT DIFFICULT: MODERNIST POETRY AS APPLIED TO  
GAME DESIGN ANALYSIS**

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Mariam Asad

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# **MAKING IT DIFFICULT: MODERNIST POETRY AS APPLIED TO GAME DESIGN ANALYSIS**

Approved by:

Dr. Ian Bogost, Advisor  
School of Literature, Communication, and  
Culture  
*Georgia Institute of Technology*

Dr. Celia Pearce  
School of Literature, Communication, and  
Culture  
*Georgia Institute of Technology*

Dr. Janet Murray  
School of Literature, Communication,  
and Culture  
*Georgia Institute of Technology*

Dr. Maria Engberg  
School of Planning and Media Design  
*Blekinge Institute of Technology*

Date Approved: April 01, 2011

To all my teachers over the years for giving me more than curricula could ever offer.  
To Merr and Melisse, for Lego swords, Daggerfall, and Lockout in *Halo 2*.  
And to my parents, for their sacrifices, devotion, and unconditional love.

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## SUMMARY

The process of reading a modernist poem is just as much a process of deconstructing it: the language is designed to make meaning through inefficient means, like the aforementioned fragmentation and assemblage. The reader must decode the text. This is what I want to extract as a point of entry to my videogame analysis. The process of reading is not unlike the process of playing. Instead of linguistic structures, a player must navigate a game's internal rule system. The pleasure for both the reader and player comes from decoding the poem and game, respectively. I am not making claims that relationships between modernist poetry and videogames are inherent or innate. Similarly, I am not providing a framework to apply one medium to the other. Instead I want to investigate how each medium uses its affordances to take advantage of its potential for creative expression. I do not consider poetry or literature to be superior to videogames, nor am I invoking the argument that videogames should imitate earlier media. My goal is to compare specific modernist poems and videogames to see how each medium makes meaning through its respective processes.



# CHAPTER 1

## INTRODUCTION

Poetry has served different functions throughout its history and, as contemporary readers, hindsight allows us to organize its chronology anachronistically. We know, for instance, that epic poetry differs from lyric poetry. The former speaks to the third person and is largely denotative, while the latter focuses on the first-person speaker and her emotions (Jakobson 155). Different poetic genres differ in purpose, thematic content, and form. Because of this variation, it is difficult to describe the entire poetic tradition with one blanket description. The colloquial understanding of poetry seems to be through negation: poetry is not prose. One significant difference is style. Romantic poetry is known for its use of ornate language, describing scenes of nature and the pastoral idyllic (Vendler). This is not unique to the form, however; Victorian novels offer similar themes and conventions. Poetry is often defined by its ability to produce affect; a reader's experience of a text makes her *feel* particularly sentimental or emotional. Furthermore, poetry is often defined by its inaccessible language: the act of reading is often difficult and inscrutable. A reader needs to exert more effort to understand poetry than prose. This argument just as easily applies to critical theory. The difference between the two is that obtuse language in critical theory is often counterproductive. The language is so obtuse that it obscures the text's argument, or dissuades readers from reading. Poetry also uses obtuse language, though in a subtly different way: its difficulty provokes interpretation and analysis. Poetry uses language to be inefficient, rather than obtuse. The words create images, symbols and metaphors that are communicative in spite of—and, in fact, because of—their ambiguity. Broadly speaking, poetry does not aim for clarity. Instead, it structures its use of language such that the reader needs to interrogate the text in order to create its meaning.

This thesis will focus on modernist poetry specifically. Poet Ezra Pound famously declared that modernists must “make it new;” they must do away with conventions and tradition in order to be innovative. This sentiment is grounded in the social and cultural context in which modernism grew as a movement. Because of world events and phenomena never before seen on such a grand scale—like urbanization or the first World War, for instance—Pound urged poets to reflect these changes in their art. As such, many modernist poems are reactionary and provocative in their subject matter; they question the authority of previously accepted truths. While these thematic elements are crucial in understanding modernist poetry as a tradition, I will be focusing particularly on the ways in which the subject matter is realized through a poem’s linguistic structure. The emphasis on structure is not new to modernism: rhetorical devices are commonly found in poetry and strengthen or complement the subject matter. The movement, however, does acknowledge and make explicit its efforts to emphasize structure. How is language configured—as opposed to presented—so as to convey meaning? I am making a subtle distinction in how poetry uses language in that it operates on a representational level and a configurative one. I am less concerned with what is said than how it is said.

### **Modernist Scope**

I will refer to modernist themes as ways to frame my method of analysis. Fragmentation and assemblage are two concepts that will be particularly useful. The former is informed by much of the subject matter in modernist poetry: alienation and isolation are two thematic elements that are characteristic of modernist writings. The rise of cities, for instance, created claustrophobic, chaotic urban centers; T.S. Eliot famously referred to London as an “Unreal City” in “The Waste Land” (Rainey 59). I am more interested in this theme as it is enacted and actualized through the structure of a poem. How does a poem perform fragmentation, rather than describe it? Devices such as caesuras, white space, and enjambment fragment a poem on a material level as it is

written on the page. This differs from techniques that represent fragmentation, like multiple speakers, for example. Similarly, assemblage is a theme whose roots can be found in the rise of urbanization: the juxtaposition of disparate elements, like the industrial and the residential. This process of juxtaposition can be translated easily to poetic structure: disparate linguistic elements put together can be provocative and expressive. Other key elements of my method are that of simultaneity and paradox. How does language proliferate meaning, or offer multiple interpretations simultaneously? Juxtaposition, simultaneity and paradox are concepts that can be just as easily described as performed, but my focus on the latter emphasizes these as processes. These modernist thematic elements are just as expressive when used as configurative elements. They will also form the basis of my methodology, which I describe in the next section.

The process of reading a modernist poem is just as much a process of deconstructing it: the language is designed to make meaning through inefficient means, like the aforementioned fragmentation and assemblage. The reader must decode the text. This is what I want to extract as a point of entry to my videogame analysis. The process of reading is not unlike the process of playing. Instead of linguistic structures, a player must navigate a game's internal rule system. The pleasure for both the reader and player comes from decoding the poem and game, respectively. Ian Bogost refers to this process as "excavation" in reference to his Atari 2600 game, *A Slow Year* (Bogost, "*Slow*"). He discusses Imagist poetry as crafted provocative experiences and suggests that herein lies the affinity with videogames: "The reader does not 'receive' the message of the poem, but excavates its images and uses those to craft relevance" (ibid). This concept of excavation is key to my analysis of modernist poetry and videogames because inefficiency is such a crucial component of both systems. This concept is introduced in a ludic context by Bernard Suits and his definition of games in *The Grasshopper: Games, Life and Utopia*. He describes game rules as "less efficient means" of achieving a goal (Salen and Zimmerman 76). This definition assumes that the goal of play is

(paradoxically) not to end the game, but to gain pleasure from the experience of playing. T.S. Eliot makes a similar argument in his essay “The Metaphysical Poets.” He argues that poets “must be difficult” and urges them to be “more comprehensive, more allusive, more indirect” (Eliot, “Metaphysical”). This results in poetry that is less accessible to readers and requires more effort in order to uncover meaning. This inefficiency is the most important parallel between modernist poetry and videogames.

This is not the first comparison between the two media. The digital humanities have a large field dedicated to the study of digital poetry. This includes the analyses of code as poetry, but also remediating poetry into code, among other discussions. Loss Pequeño Glazier, for example, compares poetry and programming, comparing the polysemic nature of language to the programming concept of arrays (“Code, Ode”). Scholarship in this field does not typically analyze videogames proper, but looks at poetry created through new media. Additionally, the lens of analysis generally focuses on the aesthetics of a digital poem, and less on its underlying procedural system. This is not to fault this field, nor to suggest that it is deficient; the scope of my analysis differs from that of digital poetry scholars. It is also different from most of the scholarship that already exists on poetry and videogames. While this is a largely unexplored domain, there are some games that are often cited as ‘poetic,’ such as *Okami* and the recently released *Limbo* (Playdead Studios). These claims are based largely on aesthetic criteria and I hope to engage ‘poetic’ games in my thesis on a structural level. I am not making claims that relationships between modernist poetry and videogames are inherent or innate. Similarly, I am not providing a framework to apply one medium to the other. Instead I want to investigate how each medium uses its affordances to take advantage of its potential for creative expression. I do not consider poetry or literature to be superior to videogames, nor am I invoking the argument that videogames should imitate earlier media. My goal is to compare specific modernist poems and videogames to see how each medium makes meaning through its respective processes.

## Methodological Framework

My methodology is conceptually grounded in linguistic and poststructuralist theories. Roman Jakobson was a Russian linguist and an influential figure in the literary structuralist tradition. He famously created a conceptual model that outlines different functions of language and the way they influence modes of communication (Jakobson 150). One of these factors is the poetic function, which he argues promotes the “palpability of signs, [and] deepens the fundamental dichotomy of signs and objects” (Jakobson 154). The poetic function focuses on the message, specifically the way its form helps inform its function. Jakobson uses a political slogan as an example: “I like Ike.” The phrase is succinct and symmetrical, composed of three monosyllabic words that rhyme. The structure of the phrase suggests efficiency and solidity, both of which support the semantic content of the politically-charged phrase. The form of the slogan—succinct and practical—supports its function—to support a political candidate. Jakobson analyzes the poetic function as an enclosed system: the linguistic signs and their configuration work to complement the ‘content’ of the message itself. Jakobson also argues that the poetic function must extend beyond poetry, as evidenced by his analysis of the political slogan (*ibid.*). This element of his communication model is useful for my analysis of videogames and their potential as an expressive medium. I will analyze components of videogames as signs and explore how the rules of a game help contribute to the ways in which it expresses meaning.

Roland Barthes’ work is canon in the field of poststructuralism, but also in literary criticism more broadly. His seminal essay, “The Death of the Author,” introduces the figure of the “scriptor,” who is “born with the text” (Barthes 144). This theory is influential insofar as it extends beyond the reader/author binary; the process of meaning-making is more complicated than this reductive dichotomy. Barthes argues that when the scriptor reads a given text, she necessarily uses external information—like other literary texts, genre conventions, etc.—to inform her interpretation (Barthes 145). I contend that

this is true of videogames as well: a player brings her past with her when she explores a rule system created by a designer (or design team). Informed by Barthes, I am interested in the player and how much room she is given in order to create her own interpretations of a particular game. What are the affordances that the designer provides to her through game mechanics? Any signification system—be it digital or otherwise—is more complicated than the ‘message’ that Jakobson isolates in his model. Using both Jakobson and Barthes, I am framing my methodology and analysis to explore specific game mechanics as signs that offer potential meaning to the player.

My analysis incorporates a variety of disciplines, all of which fall under the categories of digital humanities or literary criticism. These disciplines offer different approaches to videogame research, which I incorporate into my discussion to varying degrees. One of the limitations to my argument is that I do not look at the programming that is the framework underlying videogames as a medium. Scholars of critical code studies analyze the source code of digital artifacts in order to find meaning in algorithmic processes. Some critics draw a parallel between code and literature, analyzing the former as its own semiotic system akin to language (Glazier, “Transmission;” Marino). Whereas these scholars focus on the underlying processes of digital artifacts, this is not relevant to my analysis. I analyze game mechanics on a representational level, or what scholars such as John Cayley and Rita Raley refer to as “output” (Marino). I am interested in how a player interacts with the rule system. I exclude code studies from my scope of analysis because the player does not have access to a game’s code, and thus cannot use it to make sense of her play experience.

I also do close readings of specific modernist poems, which necessitates the inclusion of works from contemporary modernism scholars like Marjorie Perloff and Helen Vendler. There are plenty of resources from more traditional literary critics, like Terry Eagleton or Harold Bloom. These works, while canonical, are less useful for my

research because they focus on the literary aspect of poetry too exclusively. Perloff and Vendler, by contrast, contextualize their work; their literary criticism engages with questions pertaining to new media as well, such as digital poetry and online scholarship. Additionally, Perloff and Vendler do not only focus on modernist poetry, but pay particularly attention to the form and structure of poems as ways of conveying meaning. I make many references to Perloff's work to support my own analysis of the form and structure of videogames.

Finally, my analysis owes much to the work of game studies proper. This field is broad and diverse, but I am particularly influenced by scholars who focus on videogames as computational systems, such as Ian Bogost, Michael Mateas, and Noah Wardrip-Fruin (Bogost, "Unit;" Mateas and Wardrip-Fruin). Similarly, there are game designers who explicitly focus on the mechanic when creating games, such as Brenda Brathwaite and Eric Zimmerman (Brathwaite; Zimmerman and Pozzi). Both the research and the design philosophies speak to the importance of game mechanics, as well as the unique affordances that they provide in creating meaning.

## CHAPTER 2

### GAME MECHANICS AS METAPHORS

My focus on videogames is not particularly novel. There are precedents to my research: other disciplines have looked at new media as a vehicle to express creativity. Similar work has been done in related fields, such as electronic literature, interactive fiction, or digital art, more broadly (Hayles, “*Lexia*,” Cayley, “Interiority,” Cayley, “Letters,” Montfort). The general commonality among these has been a focus on using the affordances of the digital medium in order to generate works of art (Hayles, “*Lexia*,” Cayley, “Complex,” Murray). Videogames are one manifestation of this movement. There has been skepticism that videogames can be expressive; this critique has also been made more broadly against other digital media. The assumption that underlies most of these critiques is that digital artifacts rely on code and, because of this, are necessarily objective, empirical, and unimaginative (Cramer; Kittler). These arguments presuppose that procedural operations, like game mechanics, are purely functional. One way in which videogames can be expressive is through metaphor: the way in which the mechanic functions within the larger game system can be symbolic.

One example of this is the 2010 game *Yet One Word* by Singapore-MIT’s GAMBIT Game Lab. The game is a two-dimensional platformer in which the player jumps from platform to platform. The typical control scheme for this game genre allows the player to control the avatar directly in real time, either using arrow keys or WASD, which maps to up, right, down, and left, respectively. *Yet One Word* incorporates language into its control scheme. Instead of using standard controls, each platform has a word printed on it. If the player wants to jump to that particular platform, she must type the word associated with it, as seen in the screenshot below.





Figure 2-A

The game claims to make the player “reflect on their lives” by “answering personal, and occasionally uncomfortable, questions” (GAMBIT). This is the other main mechanic in the game: the player’s answers end up as words on platforms. During one playthrough, one such question asked me what my motivation was. Facetiously, I answered “success.” The word I entered ended up on a platform that looped vertically. My answer moved up to a point that was beyond the reach of my jump, then back down again. As I jumped towards the platform in the game, it was symbolic of the personal question that the game had asked me. Just as “success” encourages me to move forward in life, it also encourages me to advance in the game. As a player, I had to strive to reach “success,” much like the way motivation works in the physical world. The mechanic serves as an appropriate metaphor for the conceptual content in the game.

This game demonstrates how a game can express meaning as a player interacts with its mechanics. In *Yet One Word*—as well as the other games I will look at in this chapter—language plays a significant role in its rule system. It is not necessary for a

game to explicitly contain language in order to create meaning, but it is one way through which metaphors can be effective in game design. In this chapter, I will look at games in which metaphor is incorporated in the structure of the game itself. I begin by looking at mechanics that use language before looking at mechanics that are metaphors in and of themselves. This differs from the way in which language usually appears in videogames, often as a vehicle to deliver the narrative, such as subtitles in a cutscene or dialogue text. This also demonstrates videogames as a creative medium. Though mechanics are part of an underlying digital system, they can still be expressive by creating meaningful, symbolic relationships with the player.

### **Challenging Critiques of Digital Art**

One critique of new media comes from German media theorist Friedrich Kittler in his seminal essay, “There is No Software.” He describes software as “an ever-feasible abstraction” insofar as it is dependent on hardware to translate the underlying binary code (Kittler). Software’s ability to run algorithms and programs is “an exclusive feature of hardware, more or less suited as it is to house some notation system” (ibid). Kittler’s argument is overly reductionist and deterministic insofar as it equates all programming languages and applications to the point that they are only permutations of binary code. It is akin to reducing language to the pronunciation of vowel sounds. It reduces the text to its base, component parts devoid of context. This is an extremely limited reading and ignores the varied ways in which these parts interact, with each other, with the reader, with the cultural milieu in which they exist. According to Kittler, everything that is programmable—including digital art—is homogenous and suffers from the same limitations.

Florian Cramer makes a similar reductionist argument in his comparison of human and machine language, which is discussed in the fourth chapter. Similarly, Mackenzie Wark writes on the relationship between the analog and the digital in his book

*Gamer Theory*. Wark makes a distinction between the binary of the digital and the imprecision of the analog. For the purposes of my argument, the analog also includes creative works and the concept of expressive art. Both are ‘fuzzy,’ which epitomizes the analog for Wark. He warns against the totalizing effects of binary, referring to it as the “fatal either/or” (Wark 097). The digital is a threat because it is too divisive. Implicit in this argument is the assumption that the digital is the dominant force: “This digital realm can then become the locus for command and control of the analog remainder, which it treats as a mere residue” (Wark 092). Wark argues that the digital/analog divide itself is proof of the influence of the digital insofar as it reduces the discussion to a binary. Like Kittler and Cramer, Wark’s argument assumes that the digital is a category exclusive of all others.

John Cayley addresses this disconnect in the context of digital art in his essay “Literal Art: Neither Lines nor Pixels but Letters.” He argues that the digital—e.g. pixels, binary, algorithms—necessarily exists in a cultural context. Wark’s “fatal either/or” is not a colonizing force, but is the framework through which readers interpret the analog: “After all, do constraints that are imposed on the manipulation of pixels in order that they produce the outlines of letters tell us anything about those letters or the words which they, in turn, compose?” (Cayley, “Letters” 208). There is nothing inherent about the digital that limits creative expression, which is the underlying assumption behind the skepticism of the digital expressed by critics like Wark, Cramer, and Kittler. Cayley, by contrast, writes that the underlying digital system is a result of the analog, specifically letters, in the context of the article. “Literal Art” is valuable as a critique of the digital exclusivity that is so pervasive in contemporary scholarship and that is so often used to argue against digital media as expressive forms.

### **Metaphors as Meaningful Play**

Though I am focusing on videogames and poetry, I am not interested in creating taxonomies or further dividing subcategories under the umbrella of digital art. Cayley's "Literal Art" can be just as relevant to game studies as it is to digital art proper. He outlines two categories: literal art and digital art. The former refers to art that includes letters and/or refers to "relationships between linguistic signs and their potential significance." Digital art "points to the materiality of the media it addresses" (Cayley, "Letters" 212). Though both are vaguely defined, they are useful in the analysis of game-poems like *Silent Conversation*, a Flash game by independent developer Gregory Weir. It is a two-dimensional platformer where all the components are composed of poetry. There are two main mechanics to the game. The first has to do with navigation. The player takes control of a single letter—a capital "I"—and navigates the platforms, which consist of lines from a poem. While progressing through the level (i.e. moving right), the player is tries to touch as many words of each platform as she can. The words light up after making contact. In Figure 2-B, there are three platforms in the level; each platform is a line from Matsuo Bashō's frog haiku.

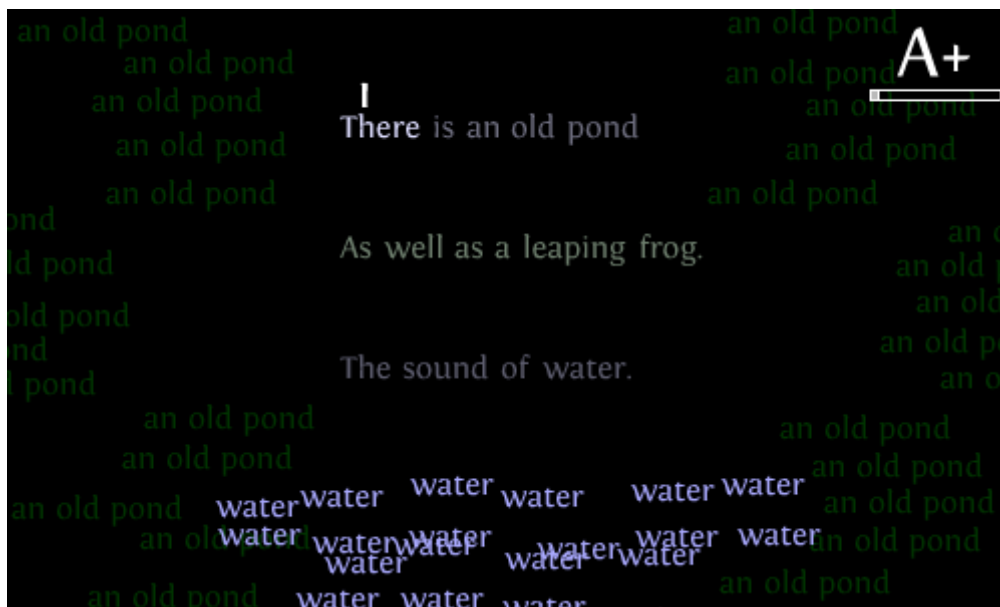


Figure 2-B

The first word of the first line (“There”) is highlighted, indicating that the player (the capital “I”) has successfully made contact with the word. Because the words create the platforms, the player will necessarily touch some of them. There is a letter grade in the top right that tracks the player’s progress as the levels become more complex and the words more difficult to touch. This first mechanic addresses Cayley’s literal art. Weir restructures the poem as he decides where to place each line. Reconfiguring the poem changes the way it is read, which changes their “potential significance” (ibid). For example, a long line of text can be split into two platforms, which creates an effect much like a line break. This can be a powerful way of expressing meaning, as discussed in the next chapter. This restructuring of the text is demonstrative of Cayley’s “literal art.”

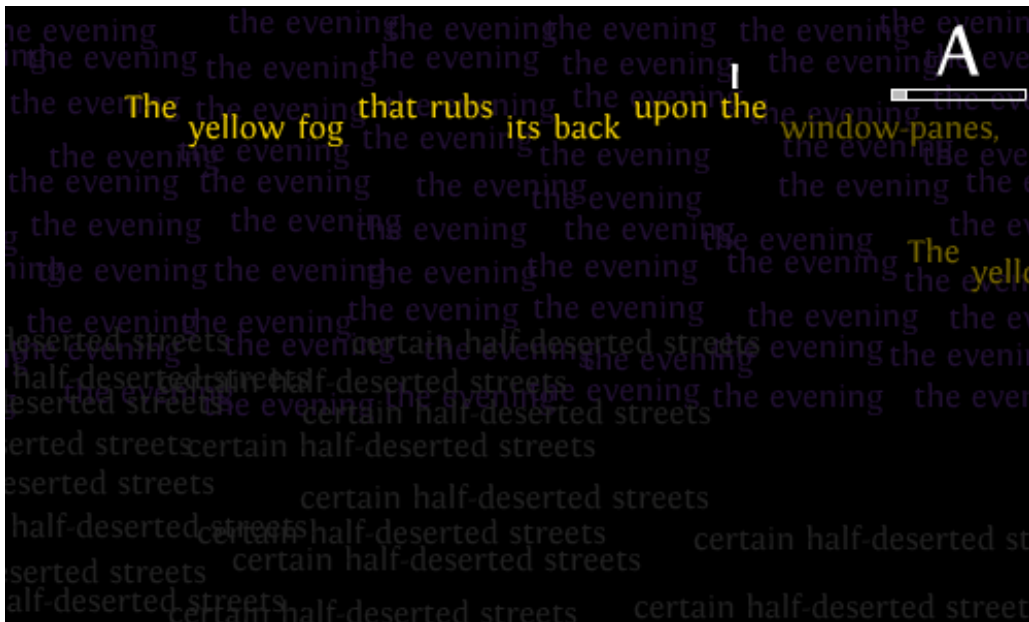


Figure 2-C

In Figure 2-C, Weir repeats “the evening” in a dark, faded color so as to recreate a night sky. This contributes to the game’s aesthetic: Weir’s restructuring complements the text’s semantic content. This happens on a performative level: the “yellow fog” in Figure 1-B lingers and meanders on the screen much like fog behaves in the physical world. Like “the evening,” this largely contributes to the game’s visuals. Even though the player is navigating Eliot’s poetry as a platformer, this example is more demonstrative of

Cayley's literal art. It does not engage with the digital medium and would be just as effective had it been expressed through a non-digital form.

What I consider to be a meaningful metaphor is when one internal process maps well onto another. This is not my original definition; several theorists have written about the importance of mapping, including Janet Murray and Donald Norman (Murray; Norman). The concept has been key to understanding other fields, such as user interaction or industrial design. Mapping offers a powerful way of meaning-making through association. George Lakoff and Mark Johnson write about metaphors in their 1980 book, *Metaphors We Live By*. They suggest that the metaphor is a cognitive process in which we use our knowledge of one "domain of experience" in order to make sense of another (Lakoff and Johnson 453). The metaphor is not just limited to the literary, but is a common means through which we make sense of the world on a day-to-day basis. Not unlike the procedural system of a videogame or the literary system of a poem, Lakoff and Johnson see the metaphor itself as a system. The value of a metaphor comes from the deliberate selection of which domains are mapped onto each other:

The very systematicity that allows us to comprehend one aspect of a concept in terms of another [...] will necessarily hide other aspects of the concept. In allowing us to focus on one aspect of a concept, [...] metaphorical concept can keep us from focusing on other aspects of the concept that are inconsistent with that metaphor. (Lakoff and Johnson 456)

I return to *Silent Conversation* for an example of meaningful mapping. In the screenshot below, the word "dying" is highlighted. This is a game mechanic that Weir calls "powerful words," which I explain in greater detail later. If the player comes into contact with them, it will undo some of her progress in the game. In this context, "dying" works as a consistent metaphor because we understand it as a threat. Dying can also be interpreted as a relief, like if someone were suffering from a long-term illness. This aspect of the word troubles the metaphor; it would not make sense given the effect of this

particular game mechanic. The mechanic-as-metaphor must effectively map associations between game mechanics and linguistic signs in order to create potential meaning.

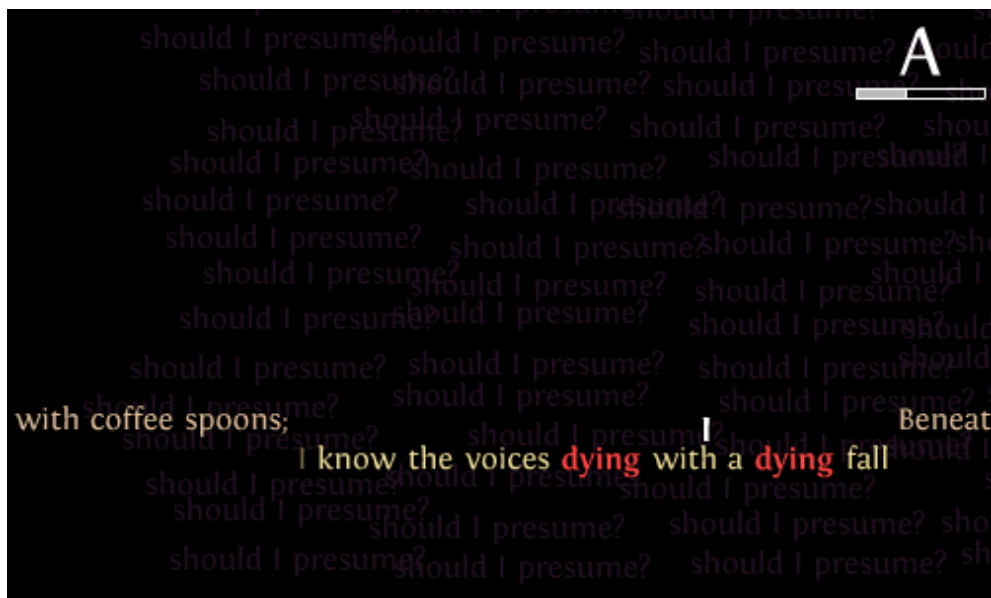


Figure 2-D

I emphasize that metaphors should be “meaningful.” To contextualize my use of this word, I refer to N. Katherine Hayles’ definition as she uses it in “Metaphoric Networks in *Lexia to Perplexia*.” In her discussion of the title art piece, Hayles draws attention to the apparent discordance in the piece. Meaning is made during this process of a player trying to synchronize her internal thought processes with the digital system. *Lexia* is intentionally disorienting and visually dizzying (Hayles, “*Lexia*” 292). Hayles argues that there is meaning in the dissonance as the player attempts to decode and make sense of the noise:

Illegibility is not simply a lack of meaning, then, but a signifier of distributed cognitive processes that construct reading as an active production of a cybernetic circuit and not merely an internal activity of the human mind. (Hayles, “*Lexia*” 293)

In *Silent Conversation*, the above mechanics map well onto the player’s canonical interpretation of Eliot’s poem. In this way, the game mechanics operate metaphorically.

Metaphors already necessarily exist in videogames to some degree, such as the mapping of hardware to in-game mechanics. However, metaphorical game mechanics are a way of conveying meaning through the affordances of the videogame medium. As a player experiences Eliot's poem as a system of rules in *Silent Conversation*, she experiences other ways through which she can read the text.

Hardware mapping does not mean that metaphors are inherent in game mechanics, however. This is also true for games that explicitly incorporate literature: it is not enough to juxtapose the two in order to create meaning. I return to *Yet One Word*, where the main mechanic requires the player to type words in order to jump to the associated platform. I focused on one particularly effective mapping in the introduction of this chapter, though that was something of an anomaly. The majority of the game suffers from arbitrariness. There is no meaningful association between the words and the platforms. The incorporation of the literary is little more than juxtaposition. Other playthroughs revealed that the questions were randomly generated, so the motivation example mentioned in the introduction was likely a coincidence. While the concept has potential for meaning-making, it is currently too arbitrary to be useful as a metaphor. The inclusion of player-generated words is little more than a unique skin. They neither add to the conventional jump mechanic, nor does the jump mechanic contribute to their semantic meaning.

### **Mapping the Ludic and the Literary**

Weir's *Silent Conversation* is also a good example of Cayley's digital art; it uses the affordances of the digital medium more effectively and, in doing so, creates a strong dynamic between poetry and videogames. The game does this both through its spatial reconfiguration of the poem, as well as its other game mechanic, which Weir calls "powerful words" (Weir). The reconfigured text does more than simply create a complementary aesthetic, as seen in the "yellow fog" example. As a platformer, *Silent*



*Conversation* has a linear progression: the player moves to the right to advance the level, which facilitates the player's reading of the poem. The text creates the platforms in the game, which offers a unique opportunity in which the two media complement and contribute to the other. Consider how *Silent Conversation* treats one of T.S. Eliot's most famous lines from "The Love Song of J. Alfred Prufrock:" "In the room the women come and go / Talking of Michelangelo." In the original text, the two lines are demonstrative of the speaker's anxiety, which is a common theme throughout the poem. For the purposes of this analysis, I will use the canonical interpretation of these two lines when referring to their 'meaning' (Eliot, "Love Song" 460). The couplet repeats, which is a fairly common modernist trope for conveying anxiety. Weir uses the platforms in *Silent Conversation* to similar effect. The first time the couplet appears is fairly conventional within the context of platformers, as seen in Figure 2-E.

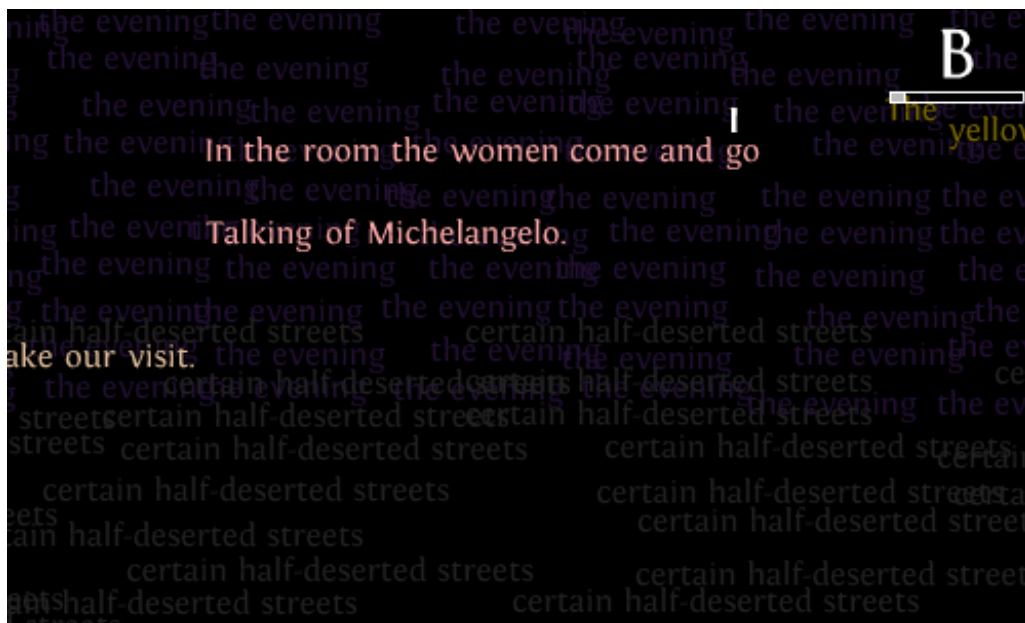


Figure 2-E

As the player progresses, she jumps on platforms of increasing height. The couplet's position is significant: it is the second platform in a sequence of three. Its role is to bridge the first and third platform; it is transitory. In Eliot's poem, the first appearance

of the couplet is one of the first times the reader sees the speaker's anxiety. The women's presence is fleeting; they leave before the speaker has a chance to speak to them. The couplet even exists as its own stanza, surrounded by white space, further emphasizing how inaccessible the women are to the speaker. By placing the couplet-platform in the middle of a sequence, Weir mirrors through level design what Eliot's poem expresses through words. The player's experience of the platform is as transitory as Prufrock's experience is with the women. Whereas the aesthetic arrangement of the poem is a clearer example of Cayley's literal art, the couplet-platform begins to move towards digital art insofar as it makes use of videogame rules in order to express meaning.

As the player navigates the platforms, she also has to dodge what Weir calls "powerful words." Certain words glow red and float towards the player's "I," as shown in Figure 2-F. If the specters (my description) touch the player before the player touches the powerful word, all the lit words on screen will go dark again, thus undoing some of the player's progress in the level.

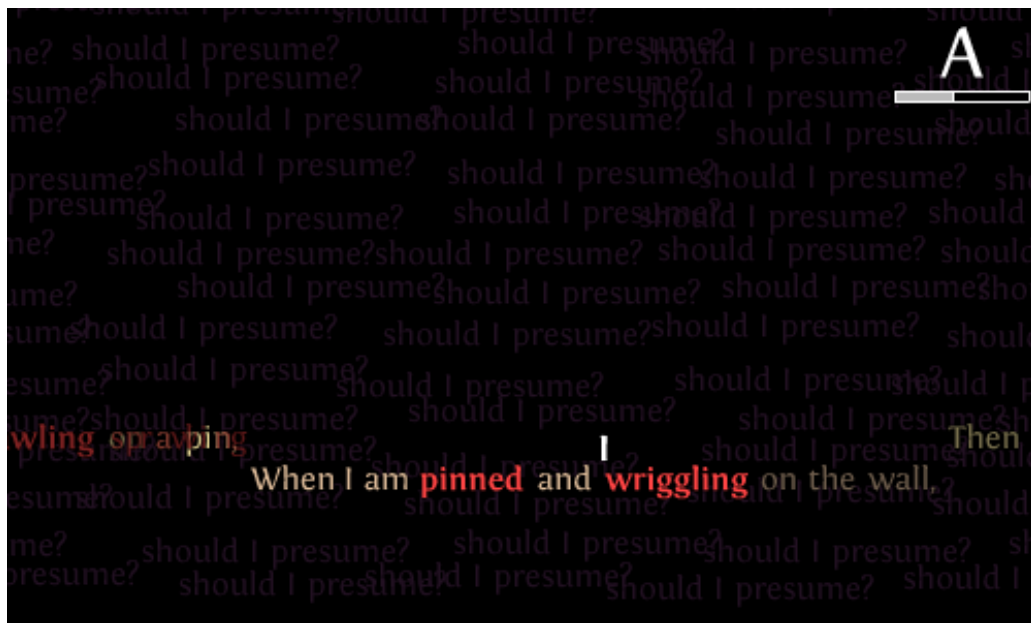


Figure 2-F

This mechanic is demonstrative of Cayley's digital art in that it harnesses the materiality of videogames to be expressive. Both "pinned" and "wriggling" are powerful

words and, because they are only separated by a single word, the specters they emit are in close proximity to one another. As they float towards the player, they take up enough space on-screen that it is difficult for the player to dodge them both. There are two options for evasion: the player can do two quick hops, hoping to jump over “pinned” and land in the small space before immediately jumping over “wriggling.” The other option is to jump over both words at once, hoping to time the move such that the words move to the left under the player, who just barely avoids contact. Either option requires the player to be responsive and agile in order to successfully complete the jump. The level design in this section is a strong example of effective mapping between the powerful word mechanic and the semantic content of the poem. The specters ‘pin’ the player, forcing her to ‘wriggle’ her way across the platform. This is a kind of ludic equivalent of an onomatopoeia: the mechanics imitate the words that are contained within them. This differs from the previous example of the couplet-platform because the specters are only effective *as part of the game system*. The “women” in the previous example are transitory in both Eliot’s original text and Weir’s game-poem. Functionally, this is expressed through identical methods: the space between platforms operates much like white space in the poem. By contrast, the “pinned” and “wriggling” are powerful because the player has to go through the process of being pinned by and wriggling through the specters. The mechanics are meaningful by using a basic procedural concept like collision detection.

One argument against *Silent Conversation* as a poetic videogame is that its mechanics still operate like a standard platformer. That is, if the lines of the poem were replaced with other assets, the game would be uninteresting. This is one limitation to my thesis: though my focus is on game mechanics, they do not operate in a vacuum, nor are they a guaranteed means of expressing creativity. They can, however, play a more or less significant role in a meaningful play experience. Within the context of Weir’s “Prufrock” level, what the rule system allows the player to do maps well onto the spatial configuration of the platforms (i.e. the lines of the poem). It is up to the designer to

ensure that her metaphors are consistent, but not prescriptive. By making certain words powerful, Weir himself interprets Eliot's poem before the player interpret's Weir's game. The powerful words speak to Weir's design decisions as much as they do the player's interpretation of the original poem. This challenge of authorial control is discussed in the next chapter.

### **Mixed Metaphors as Meaningful Play**

The examples I've referenced thus far have been effective because their metaphors are coherent; the relationship between the two domains makes sense within the context of the metaphor. For example, the player passing through the second platform in *Silent Conversation* maps well onto the women who "come and go," which is the line of poetry that forms the platform. The danger is that a mapping can become cliché and trite if it is particularly effective. One example of this is in Lakoff and Johnson's book: they discuss "TIME IS MONEY" in great detail (Lakoff and Johnson 456). Though it is demonstrative of their argument, the phrase itself is quite banal. In game design, this can lead to gameplay that is monotonous and overly didactic. I discuss an example of this in the fourth chapter when I critique the game *Limbo* and the way it uses jumps to create tension. The danger is that the metaphor is too obvious, so there is little required of the player in order to create meaning. While I have been arguing for metaphors to 'make sense,' they can be equally fruitful in game design if—paradoxically—they don't.

An example of this is the 2010 Flash game *Flock Together* by independent developer John Cooney. The player is introduced to a little girl and her sheep friend; the girl loses her friend and the goal of the game is to recover the sheep. The game opens with a single sentence: "I was careless." Before the player starts the game, *Flock Together* already establishes a clear narrative theme of loss, longing, and regret. The main mechanic supports this: the player controls the girl who can only move around on land, which is scarce. The player gains mobility by lassoing nearby flying birds, which

creates a flock that the player can control in order to fly around the sky and search for the sheep.

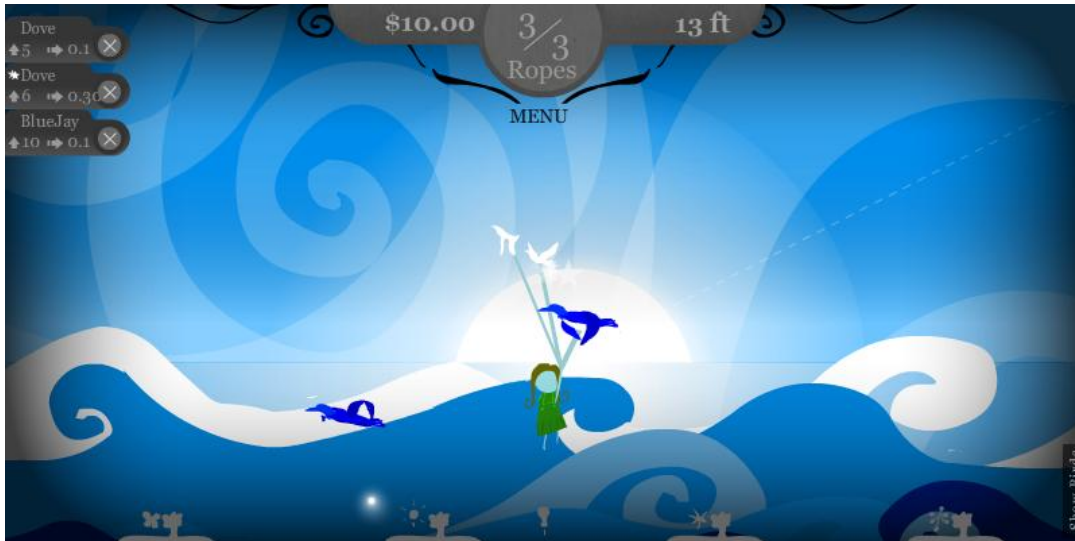


Figure 2-G

The girl has a limited length of rope and a limit to the number of birds in her flock. Each bird has a different speed and altitude that affects how the girl can move around. The mechanics encourages the player to wander around the screen and seek out birds that are most advantageous to her search (i.e. the ones with the most speed and altitude). The player's search for better birds mirrors the search for the sheep that is outlined in the narrative.

The metaphor breaks down with the introduction of a seemingly out of place economic mechanic. In the middle of the land mass at the bottom of the screen, there is a hot-air balloon with a creature named Mr. Rabbit. There is no explanation for his presence in the game's narrative. The extent of the player's knowledge of Mr. Rabbit is the role he serves within the game's rule system: he is a merchant that buys birds and sells rope. In order to explore the sky, the player needs faster birds (to catch even more birds) and a bigger flock (to fly higher). *Flock Together* promotes this through changes in its game state: if the collective altitude statistic of the player's flock isn't high enough, there is an invisible barrier that prevents her from flying above a certain height. This

necessitates the purchase of more rope. In order to make money to buy rope, the player is forced to sell the birds to whom the player has been attached.



Figure 2-H

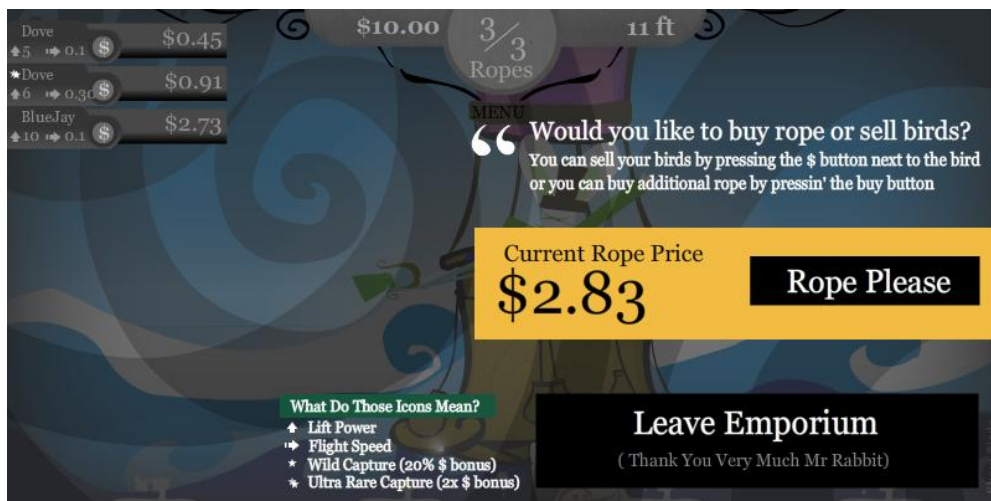


Figure 2-I

This is a powerful metaphor: the birds that are the most useful to the player are also the ones that are the most difficult to sell because they return the most money for rope. The player is attached to the flock mechanically, through the rope, but also personally, since the birds have been helping the player. The economic mechanic encourages the player to invest in the birds as a resource in the same way that friends invest in each other, emotionally. A darker interpretation reads the same economic mechanic as callous and cynical, forcing the player to use the birds as means to an end.

Regardless of how the player reads this mechanic, this is significant in that the game allows for multiple interpretations. The game's two mechanics operate as a mixed metaphor: they encourage the player to be both invested and detached, to simultaneously value friendship and depreciate it. *Flock Together* creates what Hayles refers to as a "performance of hybridity" (Hayles, "*Lexia*" 294). As the player actively reads the text, she constructs her own interpretation. The hybridity is both in the seemingly inconsistent rule system of the game, as well as a hybridity between the rule system and the player. The apparent incongruency between the game's mechanics and its 'meaning' is what makes these relationships hybrid. They are complex, which requires the player to pay closer attention to the rule system in order to interpret it. This introduces a problem of literacy: much like Hayles' analysis of *Lexia*, the reader must first recognize the illegibility before making sense of it. *Flock Together*'s player must make sense of the economic mechanic, rather than dismiss it as poor game design. The process of reading a videogame is the subject of the next chapter.

## CHAPTER 3

### MEANING MAKING THROUGH CONSTRAINT

Metaphors are not the only method for creating expressive videogames. Games like *Flock Together* offer varied mechanics through which a player can interpret the text, but games can be equally expressive through a single, narrow mechanic. Rather than offer an assorted set of mechanics, a game can revolve around a few focused mechanics that are used in a number of ways. This encourages the player to play with and master a very specific ruleset. Expert play is one way a videogame can be meaningful: it is more demanding of the player, which requires her to be more attentive to and have more control over her play style. Masocore is a videogame genre that best demonstrates this. This genre emerged fairly recently and is often produced by independent game developers. The portmanteau combines both “masochism” and “hardcore,” making reference to the genre’s notoriously extreme levels of difficulty. *Limbo* is an example of a masocore game. It is an Xbox Live Arcade game released in 2010 and, like *Silent Conversation*, is a platformer. Instead of controlling a capital letter and traversing lines of poetry, the player controls a small boy and must dodge hazards such as spiked pits and giant spiders. Its controls are pared down to running, jumping, and interacting with objects (e.g. pulling switches, pushing boxes). Even though *Silent Conversation* has even simpler controls—the player only runs and jumps—*Limbo* demands more of its players. A comparison of the two games’ jump mechanics reveals *Limbo*’s much more constrained gameplay. *Limbo* requires much more of the player even though it is mechanically similar to *Silent Conversation*.

Both games pit the player against environmental hazards, which is standard for platformers. The player must dodge powerful words in *Silent Conversation*, while the boy in *Limbo* faces dangers like spinning saw blades and, in this particular example,



electrocution from a malfunctioning neon sign. In the screenshot below, the player needs to progress to the right of the screen, but must avoid the flickering neon sign when it is lit.

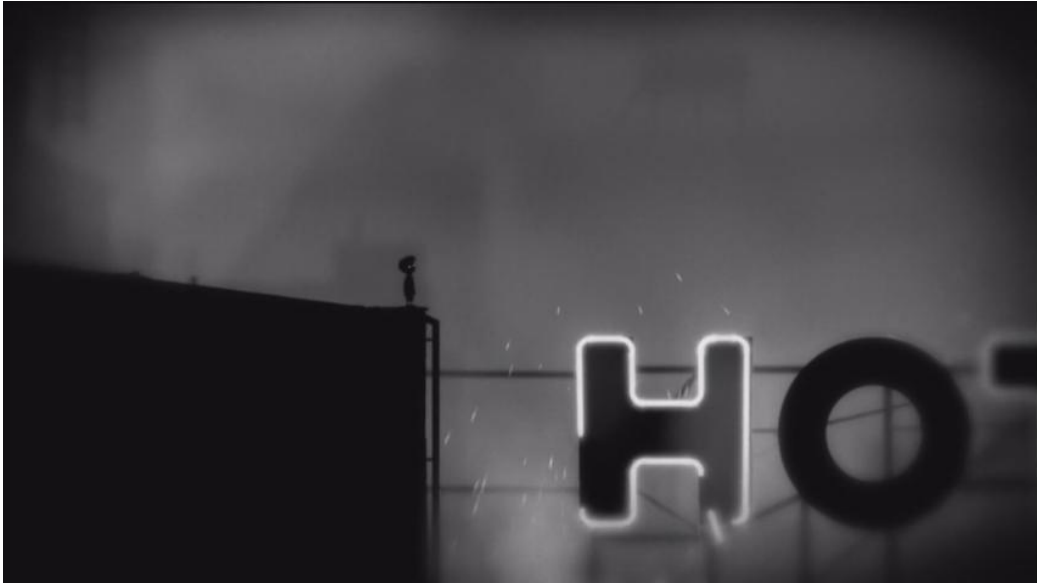


Figure 3-A

In both cases, the player must jump strategically in order to avoid each game's penalty (dimmed letters and death, respectively). The specters in *Silent Conversation* float in the general direction of the player; she has a variety of ways to avoid them. She can wait a few seconds until the specters float higher in order to run underneath them. Alternatively, she can jump over them before they float too high. In some cases, the player can simply backtrack through the level in order to avoid the specters entirely, thus bypassing the jump mechanic altogether. In the *Limbo* example, there is no other way to proceed through the level: the player must jump from the ledge to the left half of the H, from the left half of the H to the right half, and from the right half to the O. She can only do this successfully when the neon sign flickers off, which lasts exactly three seconds. This is just barely enough time to execute all three jumps. The player must have expert control of the jump mechanic in order to proceed. The player must time her initial jump when the neon light is still lit so that she lands on the left half of the H just as the light is turning

off. This is similar to the “pinned” example in *Silent Conversation*, except that this precision is constant throughout *Limbo*, whereas most of *Silent Conversation* allows for more flexible play. This tension between flexibility and constraint is a key element of play and is an avenue explored in both videogames and poetry. In both media, constraints offer players and readers ways to explore and interpret literary and ludic texts. Constraints are also valuable for a text to be expressive by encouraging a more intimate relationship between the reader and the text, as well as the reader and her own reading habits.

### **Oulipo as Ludic Literature**

The relationship between constraints and play has been explored in poetry. In the same way that videogame players rethink their playing habits, constraints in literature have traditionally focused on the reevaluation of reading practices, particularly through innovations in literary form (“Six Selections” 148). One of the most notable groups in this tradition is the Oulipo collective, assembled in 1960 in France by Raymond Queneau and François Le Lionnais. The group name stands for “Ouvrir de Littérature Potentielle,” or the Workshop of Potential Literature (ibid). One of the explicit aims of the group is to be “aesthetically and politically engaged in an ethos of play for the sake of play,” as well as “to experiment with constrained forms in order to offer them to others for use” (Baetens and Poucel 622, 613). Oulipo is significant in its own right; most obviously, it explicitly integrates a ludic quality into its texts. More significantly, Oulipo is an example of a larger literary tradition called constrained writing that is valuable for game design. Constraints offer a way to question the traditional reader/writer binary in poetry and the designer/player binary in game design. William Carlos Williams’ poetics are significant in his own application of poetic constraint even though he’s not a formal member of the constrained writing tradition. Like members of the Oulipo, he also pays close attention to structure in his poetry, which produces meaning through its formal configuration. Both

constrained writing and Williams' poetics are ways through which poetry is relevant to videogame design.

The most recognized work to emerge from Oulipo is Raymond Queneau's "Cent mille milliards de poèmes." In this piece, Queneau writes ten sonnets where each line is interchangeable with any other. Each line is written using the same rhythm and rhyme scheme so that there are  $10^{14}$  possible configurations, each of which is a complete, unique, and coherent sonnet. Jan Baetens and Jean-Jacques Poucel write of constrained writing in an introduction to a 2009 issue of *Poetics Today*. In it, they describe "Cent mille" as "chance operations." The term originates from poet Jackson Mac Low and refers to the self-selected restraints produce new texts, but the reader has nothing to guide her decision when creating a new sonnet (Baetens and Poucel 621). They describe these constraints as a "complex game" in which the reader must discover the "formal rules" in order to make sense of the text and derive meaning from it (Baetens and Poucel 628). Queneau uses constraints in other works as well, including some of his prose work. Both Queneau and Oulipo are part of the literary tradition of constrained writing, which Baetens and Poucel define as the application of a "self-chosen rule (i.e., different from the rules that are imposed by the use of a natural language or those of convention)" (613). An example of this is the lipogram, in which an entire text is written while omitting a single letter. The authors' definition is somewhat vague. They acknowledge that constraints, to some extent, are implied and exist *a priori* in any body of work: "...the notion of constraint is not new, for it is in the very nature of *form* to impose limits, establish rules, and design structures that more or less play a role in the meaning of a particular work or genre" (Baetens and Poucel 615). In this way, constrained writing is not so much a genre or tradition that exists on its own, but more like a continuum along which texts are more or less constrained. Even though these rudimentary definitions of constrained writing make it sound superfluous, it underscores characteristics of the

tradition that parallel videogames, such as the emphasis of rules and design structures, which are constitutive of the latter medium.

Baetens and Poucel argue that one of the values of constrained writing is the production of “surprises that would have been unthinkable without the use of constraints” (616). This is certainly true of “Cent mille,” but Queneau’s chance operations are not useful within the context of game design. They highlight the procedurality of constrained writing; Queneau’s constraints create much of the ‘meaning’ of the text(s). He designs his sonnets so that each line is interchangeable with every other one. “Cent mille” isn’t so much a collection of poems as much as it is a rule-based process from which poems emerge. Constrained writing is perhaps most useful in the context of game design in that they offer a point of access for the reader/player: “Constraints are not ornaments: for the writer, they help generate the text; for the reader, they help make sense of it” (Baetens and Poucel 613). The rules offer additional ways of reading the text, much like procedural rules make sense of a game to a player. Constraints highlight patterns or sequences through which a reader can make meaning beyond the thematic content of a written text. In “Cent mille,” for example, the way in which the sonnets are produced offer as much meaning as the semantics of the poem: each produced sonnet is coherent without a poet having written each one of the  $10^{14}$  individually. This creates a number of possible meanings: it might speak to the nature of language, or suggest that words are inherently objective. The constraints and structure of the poem are crucial to whatever interpretation the reader infers. In “Cent Mille,” specifically, the constraints literally generate the text. This differs from constraints that already exist *a priori* in the “nature of form” in that constraints in “Cent Mille” are intentionally applied to the work. It introduces a valuable point of entry to the text through which an author can express meaning.

### **Constraints as Critical Reading**

Constrained writing has particular impacts on a literary text that I find useful when applied to game design. The first is that of context: constrained rules can create better context for making meaning. An example of this is Anna Anthropy's game *Mighty Jill Off*. It is a two-dimensional platformer where the player must move upwards—instead of to the right—to progress the game. The level design is solely composed of two elements: dangerous tiles (spikes, fire, etc.) and the platforms, or 'safe' tiles (Anthropy, "craft"). The gravity is weaker than most platformers such that a jump reaches a high distance. However, the player must often navigate narrow spaces, so this distance is counterproductive. The player can cut her jump short by hitting the jump button in mid-air, which returns the player back to the ground. Alternatively, the player can hover briefly by hitting the jump button repeatedly. This is useful for parts in the game where hazards are both above and below the player. Playing *Mighty Jill Off* requires the player to constantly push the spacebar in order to navigate the dangerous level design. The narrative is also significant: the player is a slave in a BDSM relationship that is trying to earn the affections of her master at the top of the tower. There is a close mapping between the extreme difficulty of the mechanics and the game's thematic content. Anthropy uses constrained mechanics to explore the theme of sadomasochistic relationships.

The addition of constraints also creates a narrower scope; tighter focus on a smaller subset of rules encourages deeper engagement with that system, be it literary or procedural. Baetens and Poucel write that the "deliberate planning" of constrained writing "is based on awareness and engagement" (622). They refer to Queneau's work in which only some of the rules were made obvious to the reader. The reader's partial awareness encourages a closer reading of the text in order to uncover other layers of meaning; the authors refer to this as "interpretive paranoia" (Baetens and Poucel 628). The constrained text becomes a space in which a reader must navigate the internal rule system as a way of engaging with the literature. This is not to say that a text with more

constraints is consequently more engaging. The authors acknowledge this fallacy in his discussion of free verse writing. Within the field of constrained writing, it serves as its *de facto* foil: “the notion of constraint cannot be disassociated from the symmetrical notion of ‘freedom’” (Baetens and Poucel 616). Unsurprisingly, proponents of constrained writing believe it to be a form that is more creative and expressive than free form writing, a literary tradition popular around the same time Oulipo assembled. Similar discussions of the constraint/freedom binary already exist in videogames as a necessary part of the design process: how much control will a player have in any given game? One example of this is the tension between games that are linear and those that are considered “sandbox” games. The latter offers a three-dimensional space in which the player can deviate from the core, scripted events of the game. One example is *Grand Theft Auto IV*, in which the player can choose from a variety of activities, from online dating to bowling to watching television. Linear games offer a much more scripted play experience in which a player has less control over how game events unfold.

I am more interested in the ways in which the constraint/freedom argument applies to a specific game system and which rules or mechanics are available to a player at a given time. I am not suggesting a value argument in which the addition or lack of constraints subsequently leads to a better or more engaging play experience. Constraints offer additional means through which a player can interpret a game. Mechanics function much like the “nature of form,” but in game systems instead of poems. A reader initially looks to established rules of grammar, syntax, etc. to make sense of a poem. Similarly, the mechanics available to a player creates particular expectations through which she makes sense of the game. Mechanics can be constraints and vice versa; the difference is that constraints add some restrictions to what a player can do. A basic example is when a player is given the ability to fly, but only for a limited time. In *Super Mario 2*, Princess Peach’s jump allows her to float briefly before falling back to the ground. This differs from other jumps in the game because Peach’s jump suspends gravity for a

predetermined amount of time. This constraint puts the impetus on the player to be strategic when using this ability, paying careful attention to the space around her for particularly hazardous jumps, etc. When a constraint takes something away from a player, she learns something new about existing rules. In this example, the player learns the limitations of the default jump mechanic. The value of constraints in a videogame system is how they organize rules: in the same way that constrained writing offers a reader different ways of reading a text, constraints in a videogame offer a player different ways of playing the game.

Baetens and Poucel argue that one of the values of constrained writing is the reader's deeper engagement with the process of reading. They describe it as "the systematic comparison of what the text actualized and what the reader can tease out of it" (623). As the reader plays with the rules, there is greater room for interpretation. This is not a new argument: theorists such as Roland Barthes have written on the increased role of the reader in the creation of a text's meaning (Barthes). The significance of this quote is in the way it echoes descriptions of a videogame; the medium is often defined as a feedback mechanism, or a system of feedback loops (Koster). The "text actualized" is more applicable to videogames such that the underlying code is almost always inaccessible to the player. This inaccessibility does not prevent different modes of play. The best example of this is how different players approach two-dimensional fighting games, such as *Street Fighter*. There is the "text actualized" that is identical for all players: the move lists are consistent. Each character has a normal move, special move, super move, and throw. These constraints, or Baeten and Poucel's "deliberate planning," are also consistent. What varies is what the player "can tease out of it:" some players approach *Street Fighter* as a game of tactics and precision, while others see it as a game of speed. The latter group engages in what is generally referred to as "button-mashing," where a player pushes the buttons on a controller as fast as possible in hopes of stringing combos together as a way of attacking. There is, arguably, some degree of skill involved,

though this mode of play is largely based on chance. Other *Street Fighter* players engage with the game's rules on a much more precise level. These players understand the game system on a different level than button-mashers, which Sirlin labels "scrubs" (Sirlin, "Guide"). David Sirlin was the lead designer of *Super Street Fighter II Turbo HD Remix*, a popular game in the *Street Fighter* series. He describes the game as "controlling space" (Sirlin, "Tutorial"). He analyzes one character's attacks in spatial terms. In Figure 3-B, Sirlin visualizes and explains a sequence of Chun-Li's attacks, as well as the space that each takes up on screen.



Figure 3-B

The first attack in the first frame is a slow fireball, which takes up the lower half of the screen. This forces the opponent to dodge the attack, either by blocking or jumping. If the opponent chooses the latter, the player (as Chun-Li) can follow up with a jumping short kick, which covers the top half of the screen (see second frame). The combination of these two moves forces the opponent into a corner, where Chun-Li can continue her on-screen dominance with a fierce punch, thus keeping the opponent trapped. Sirlin's walkthrough demonstrates how a player manipulates the rules in order to maintain control of the playfield. This reading of the system's rules calls for strategy and precision. Sirlin's "good players" rely on an intimate knowledge of the game's countermeasures, knowing what move can best respond to particular attacks (Sirlin, "Guide"). Compare this to the play of button-mashing scrubs, who rely on speed and chance. Speed is a factor for good players as well, but it is not the primary motivation behind the player's style. The value of constrained writing is in the interpretive potential accessible to the player: both button-mashing and strategic play are equally valid forms of playing *Street Fighter*.



What is significant is that both use the same set of rules that allow for varied ways of reading the game and its mechanics. The constraints create space for the player to “tease out” modes of play that interpret the rule systems in different ways.

The *Street Fighter* example highlights another way in which constrained writing is relevant to poetry. As a player engages with and interprets a set of rules, there is a move towards mastery of the game system. In *Street Fighter*, the level of mastery is judged by the number of moves and combos that a player has internalized. The more strategies she has in her arsenal, the better equipped she is to successfully counter the attacks used against her. Her knowledge set is valuable because of its breadth. Mastery can also work as an insular process: rather than controlling an expansive move list, as in *Street Fighter*, a player can equally master a game by fully exhausting one or a few mechanics. This is where the masocore genre is most useful in my analysis. I refer to Anna Anthropy, the designer of one of the genre’s most infamous titles, *Mighty Jill Off*. She defines the genre as one that “plays with the player’s expectations, the conventions of the genre that the player thinks she knows” (Anthropy, “masocore”). The screenshot below shows an example of a platformer convention with which players are familiar: low-hanging objects that fall on the player as she moves close to them. In one level of *Kirby’s Dream Land*, there are coconuts in the trees, which fall as Kirby passes underneath. If the player stops moving under the tree, the coconut will hit her and she will take damage.



Figure 3-C

This expectation is subverted in the classic masocore game, *I Wanna Be The Guy* (*IWBTG*). Anthropy uses this example when defining masocore. The second screen the player encounters in *IWBTG* features a row of apple trees. The player must make her way to the right side of the screen, jump up on the elevated platform, and jump across the staggered row of platforms to the left side of the screen in order to progress to the next screen.

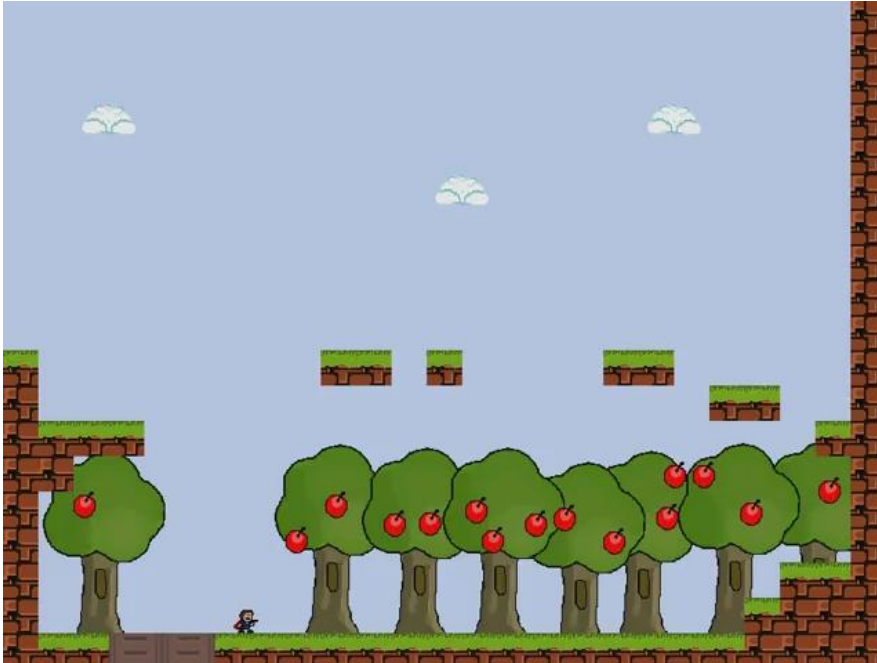


Figure 3-D

Of the 14 apples on the right side of the screen, some of them fall down toward the ground. The player expects this and thus knows how to dodge the hazard. However, as the player makes her way to the right, she discovers that some of the apples subvert gravity. As the player jumps up to dodge the anticipated falling apple, she is killed by the apples flying upwards. The apple on the very right side of the screen falls up, which will kill the player as she tries to jump up on the elevated platform along the right wall. By contrast, the apple on the very left of the screen falls down. This doesn't pose a threat to the player, though it does further subvert expectations, as she expects the final apple to fall up and kill her. This echoes Baetens' description of one of the effects of constrained writing. The player's engagement with a constrained text leads to a more critical reading of it; Baetens refers to this as "explicit reevaluation" (623). In the same way that rules can guide the interpretation of a text, it also encourages self-reflexivity: not only does a reader interrogate the text, but the reader also interrogates her own practices of reading.

### **Constraints in Masocore**

Many of the well-known masocore games are platformers, though this trait does not define the genre. This includes the aforementioned *Mighty Jill Off*, *N+*, *I Wanna Be The Guy*, *Syobon Action*, *VVVVVV*, and *Super Meat Boy*. For the sake of my analysis, I will focus on the last two as puzzle-platformers, which is a common subcategory. Platformers also map well onto the concept of constrained texts: masocore platformers are often pared down to the genre's core mechanics, namely running and jumping. As mentioned in the introduction, simplistic mechanics aren't necessarily unique to masocore. The main difference between masocore games and conventional platformers is the demand for more precision and control from the player, as seen in the *Silent Conversation/Limbo* comparison. In reference to Baetens' definition of constrained writing, the run and jump mechanics are those that the player already anticipates because of her familiarity with genre conventions. She expects that there is a two-dimensional space where the player progresses towards a goal (often to the right of the screen) and will have to navigate around objects in the environment in order to do so. The additional constraint in masocore platformers comes from the precision required in order to successfully move through the space. In this way, the player enters a dialogue with her process of playing; she must exert more effort to make sure that her jump is precise and exact. Terry Cavanaugh's *VVVVVV* is a canonical puzzle-platformer masocore game. It is a fairly conventional two-dimensional platformer: the player controls an avatar that must traverse various platforms and obstacles. The significant difference between *VVVVVV* and other platformers—that is, its main constraint—is that it eliminates the traditional jump mechanic and instead gives the player the ability to reverse gravity. Cavanaugh's level design reconfigures the space such that the player has to reconsider elements with which she's familiar.

One rudimentary example of this reconfiguration is that the player is no longer protected on the ground; the ground can be as perilous as the ceiling is safe. In typical platformers, the ground is a way for the player to orient herself: it is the point to which

she returns after jumping. *VVVVVV* subverts this spatial anchor; the player must reconsider every surface because each one is as safe or hazardous as the others. This kind of reflective design is prevalent in constrained writing as well. One of the canonical texts, John Cage's *I-VI*, was critiqued for being "unreadable." Baetens argues that it served a very different purpose as "a carefully plotted over-determination designed to overcome our conventional reading habits," which echoes Anthropy's philosophy on masocore games ("masocore"). As a player encounters design that subverts her learned expectations—such as the *IWBTG* example—she reflects on her own reading habits. Ian Bogost encourages this kind of explorative design, referring to it as "plumbing the depths" ("Plumbing"). The article originally addresses changes in hardware, the same philosophy applies to game rules. By revolving the system around a single mechanic, the player learns to explore the potential afforded to them by both the game system and its designer. Cavanaugh's careful level design reintroduces the flip mechanic in different contexts such that a player continually questions how to use it in spite of its apparent simplicity. This parallels Baeten's "interpretive paranoia," albeit in a slightly different context. Baetens' reader is paranoid about uncovering rules in Queneau's work. The paranoid player knows what the constraint is in *VVVVVV*, but is unsure of how to proceed. In the screenshot below, the title of the level alludes to the puzzle the player must solve in order to continue in the game.

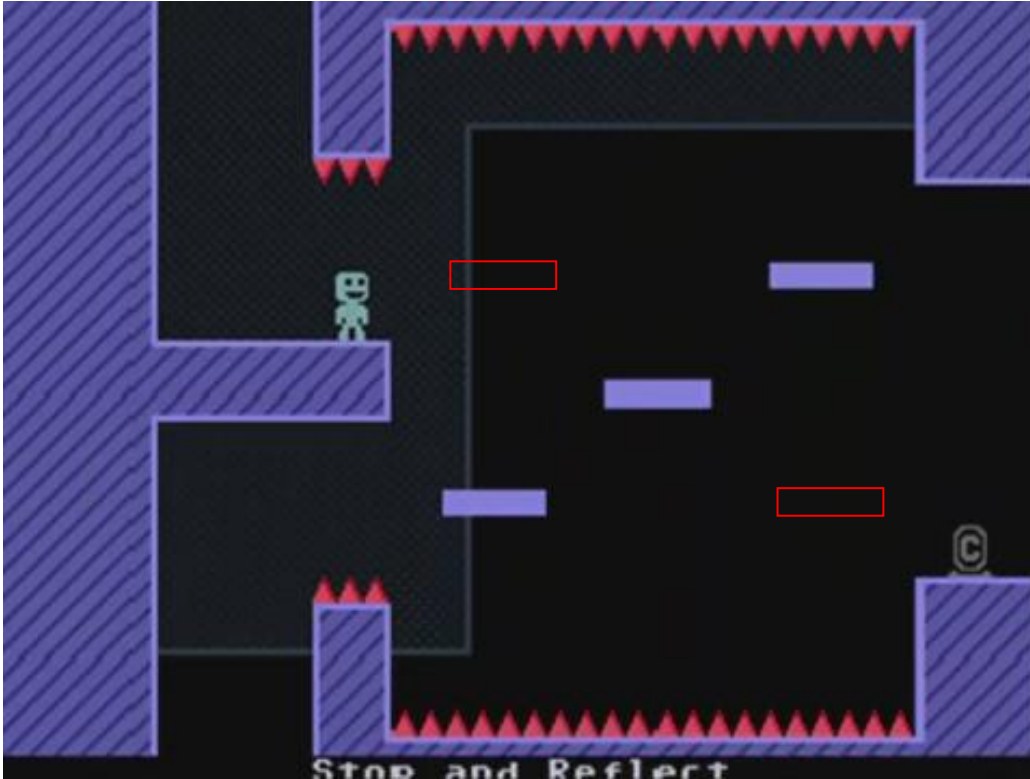


Figure 3-E

The player must make her way to the right side of the screen and onto the next. After she is finished off-screen, she must make her way back to the left side of the original screen (i.e. the one shown above) in order to move on to the screen under her. The three platforms are staggered and operate on a vertical loop. The platform on the very left is at the lowest point of the loop while the right most platform is at the top of the loop. Because the player can't jump, she must stand on the left platform and wait until the platforms are in the opposite formation (indicated by the red rectangles). This allows for her to simply walk across the platforms to the checkpoint on the right side of the screen. When the player has to her way back across to the lower left exit, she discovers that her previous strategy will be ineffective because of the three spikes on the left, preventing her from simply walking onto that ledge. The previous strategy is only effective if she flips and traverses the platforms upside down. The player's paranoia of this level comes from having to reconfigure the space to account for the flip mechanic. She reconfigures the

space again when she needs to use the same obstacles in order to reach a different destination point.

In this example, the way to overcome “interpretive paranoia” is by “plumbing the depths:” the player must use her knowledge of the flip mechanic and apply what she’s already learned in order to resolve new problems. Bogost’s argument is partially inspired by recent videogame releases that seek to revolutionize current hardware’s capabilities. He makes reference to the gaming industry and its tendency to release new hardware every five to ten years, like the Nintendo Wii or Microsoft Kinect (Bogost, “Plumbing”). This trend extends to rule systems as well; there is a constant push for ‘new’ and innovative mechanics. *VVVVVV* does this through the exploration of a single mechanic, which encourages a player to exhaust the possibilities afforded to her. *VVVVVV* is paradoxically innovative by “plumbing the depths” and creating something ‘new’ out of established conventions. This is modernist: the “make it new” ethos is emblematic of the literary movement. This kind of introspective innovation is also characteristic of the constrained writing movement: “writing under constraint has proved its potential in fostering a productivity that transcends the exhaustion of traditional forms or—better yet—a productivity that redeems and extends their usefulness” (Baetens 617). By adding constraints, poets are forced to be more creative with fewer parameters.

In the case of *VVVVVV*, the “traditional forms” are the running and jumping of two-dimensional platformers. The “productivity” is produced through the subversion of the jump mechanic. A conventional jump is a brief departure from the ground; the player only has to account for a short distance in the air. Though this distance varies, the player quickly learns the limits of this mechanic within the context of each game. By contrast, a flip in *VVVVVV* is much more inconsistent: the player stops moving through the air when she collides with another object, like the ceiling, a platform, or an enemy. The level design in *VVVVVV* often requires the player to flip through various screens. One of the game’s most infamous levels—“Veni, Vidi, Vici”—is designed such that a player must

flip up through seven different screens before landing on a platform. There is a narrow, twisty passage that is covered in spikes. This gives the player a very restricted space that she must navigate while in free fall. Through these extreme constraints, *VVVVVV* encourages the mastery of the game system in order to succeed. Baetens and Poucel suggest that this is an inherent property of constrained writing: “its very mode of being is to *encode innovation* [...] in such a way that selecting and overcoming constraints masters them” (622, emphasis mine). While a player may have to repeat a level in *VVVVVV* several times in order to master it, this differs from regular grinding in games. Masocore gameplay poses a challenge: the constraints do not simply oppose or slow down a player, but tests her knowledge and expertise of the game.

The notion of ‘encoded innovation’ reveals another paradox of constrained game design. I have been arguing that constrained writing is valuable as a point of comparison because it deepens the relationship between the player and the game system, but this also necessarily involves the designer. Constrained writers acknowledge this paradox of having a work stand on its own, while simultaneously “communicating the indelible charm of a writer’s signature” (ibid). In the same way that poets or writers leave the “indelible charm” of their writing style on their works, game designers inevitably leave traces of their design principles on game systems that reflect their perspective on the player/system relationship. This emphasizes the role of the designer in relation to the game system. In order for the game rules to be ‘encoded,’ the designer needs to have strong authorial control. Of course, by definition, there is some degree of authorial control in order to design a game. The difference is that the designer who ‘encodes innovation’ is more considerate of the ways in which a player interacts with the rules of a game system. The way these rules are designed speaks to how much innovation or creativity is afforded to the player.

### **The Paradoxical Poetics of William Carlos Williams**



This tension is not unique to videogames; authorial intention has always been a contentious issue in literary studies. Auteur theory suggests that texts are a transparent vehicle through which writers deliver their intentions. Later, poststructuralism isolates the reader-text dynamic as the sole site for making meaning, like Roland Barthes and his declaration of the death of the author (Barthes). Similar debates exist in the context of poetic interpretation (Ramazani et al., 948). Modernist poets have also asked how a text produces meaning, which is one of the motivations behind the drive to ‘make it new.’ Modernist poet William Carlos Williams looks at poems as systems; he innovates his work through the explicit emphasis on the form and structure of a text. He is typically associated with the Imagist movement, though later in his career, Williams himself explicitly disassociates himself from that poetic tradition (Williams, “Field”). Williams’ emphasis on poetic structure remains constant regardless of his associated poetic tradition. Throughout his entire corpus, both prose and poetry, Williams focuses his attention on the materiality of language. This refers to the ways in which words create connections among each other on the page. One example is Williams’ poem “Between Walls.” It is short and only contains five couplets. Williams uses enjambment to break each line:

the back wings

of the

hospital where

nothing

will grow lie

cinders

in which shine

the broken

pieces of a green

bottle

The lines are staggered. The spaces parallel the incremental discovery of the “green / bottle:” the reading of the poem is as drawn out as the revelation of the object at the end of the text. Williams’ constant use of enjambment is more significant as the line breaks force the reader to reevaluate the semantic content of the poem. Williams’ symbolism invokes nature imagery, namely “wings” and “green,” located at the end of lines 1 and 9, respectively. As the reader scans “the back wings,” the phrase is easily associated with bird imagery. It is not until she reads the third line that she discovers that the “wings” actually belong to a physical structure (“the / hospital”). Similarly, the “green” that appears at the end of the poem could refer to shrubbery or foliage, especially because of the earlier mention of “grow” in the fifth line. The line break reveals that the “green” is not a reference to nature, but in fact to its converse: the synthetic debris of a broken bottle. William pays close attention to the materiality of the poem and how the arrangement of words influences how the text is read. His poetics insist on the careful composition and deliberate construction of a poem in order to convey meaning.

This calculated literary design is characteristic of Williams’ work. He famously compares poetry to machinery in the introduction to his 1944 poetry collection, *The Wedge*. Williams writes in direct opposition to the Romantics: “There’s nothing sentimental about a machine, and: A poem is a small (or large) machine made of words” (Williams, “*Wedge*”). Williams argues that this industrial metaphor speaks to the differences between prose and poetry, the latter of which is “pruned to a perfect economy” (ibid). Williams’ use of language speaks to the canonical affiliation of his work with the Imagist movement. Writers in this tradition—Ezra Pound, most famously—wrote their poetry such that their words were efficient, chosen so as to evoke

very concise and specific imagery (Ramazani et al. 348). This also applies to game design; Ian Bogost has cited Imagism as an influence both in his writings and artistic creation, specifically his 2010 Atari VCS game, *A Slow Year* (Bogost, “*Slow*”). What is more significant than the reference to Imagism is what Williams’ metaphor reveals about his poetics. Williams’ comparison to the industrial reveals that words are components of a system and produce meaning procedurally. To Williams, there is—to some degree—objectivity in language. The meaning of his poems are built into the design: “There is no poetry of distinction without formal invention, for it is in the intimate form that works of art achieve their *exact meaning*, in which they most resemble the machine” (Williams, “*Wedge*,” emphasis mine). Whereas Queneau left meaning-making up to “chance operations,” Williams argues that poets take words and compose them to communicate their “exact significances” (ibid). Williams’ poetics is based in a kind of objectivism: he believes that poets can encode meaning through the structure and composition of their writing.

While one of Williams’ concerns is with the transparency of language, he simultaneously argues for poetics that are seemingly the opposite. In 1948, Williams delivered a lecture at the University of Washington titled “The Poem as a Field of Action.” He calls for “sweeping changes from top to bottom of the poetic structure”(Williams, “Field”). He critiques the “rigidity” of poetic conventions and calls to find “an objective way” to develop and improve upon structure. He specifically identifies poetic measure as the convention that has remained unchanged. Paradoxically, Williams also points to measure as the convention through which reinvention must happen, stating that it is “the only reality that we can know” (ibid). This change must happen through measure specifically because it is so accepted as a standard poetic convention. This appeal to the ‘real’ demonstrates that Williams still maintains a similar impulse for the objective as he did in *The Wedge*. Later in the lecture, however, Williams makes a curious reference to Albert Einstein’s work and argues that poets should work

relativity into their poetics. This is a starkly different direction than the “exact significances” described in *The Wedge*: while relativity certainly works against the “rigidity of the poetic foot,” it is still open to interpretation and contradicts the metaphor of the machine. Williams argues that poets should be influenced by local speech and dialect: “we here must *listen* to the language for the discoveries we hope to make” (Williams, “Field,” emphasis mine). To Williams, poetic measure is more natural and authentic when people speak, which makes speech a model around which poets should structure their writing. This is the foundation of a new rhythmic unit that Williams’ calls the *variable foot* and is a key structural element in his poetry. The paradox is in the ambiguity of the variable foot: there aren’t any rules or criteria for determining each individual unit beyond Williams’ own subjectivity. For Williams, however, it is “the origin of form, the origin of measure” (Grenier 9). This method is supposed to encapsulate the organic measure inherent in speech; Williams marks each unit with a line break, such that each line is a single variable foot. Williams constructs and uses a poetic device through which his poetry resembles a machine, but the device is based on a measure that is fluid and variable (i.e. speech). For Williams, this ambiguity is what makes his variable foot innovative as it offers a solution to the rigidity of prior poetic structures.

Williams’ poetics appear contradictory; they are two polarized impulses that are seemingly irreconcilable. What this paradox reveals is a move towards structured, transparent design, while still allowing for ambiguity and interpretation. This hearkens back to Baetens and Poucel’s argument that constraint cannot be divorced from freedom. A poet cannot have complete authorial control over her work, no matter how many constraints are in the text. Williams was concerned with how a poet can control the meaning she conveys through a poem’s form. Consider Williams’ critique of previous poetic traditions: “Our poems are not *subtly enough made*, the structure, the staid manner of the poem cannot let our feelings through” (Williams, “Field,” emphasis mine). Later in

the lecture, he calls for the “opportunity to expand the structure, the basis, the actual making of the poem” (ibid). The variable foot is Williams’ response to this, which he uses to “expand the structure” and produce meaning. The indeterminacy of the variable foot offers different possibilities for interpretation, thus ‘expanding’ the poem. As much as Williams’ calls for subtlety to allow for expressing “feelings,” he imposes his own “rigidity” through his use of the variable foot. It is a measure that is dictated by Williams’ interpretation of speech, which renders the measure inaccessible to the reader. In spite of this, there is value to Williams’ poetry: it creates a paradoxical dialogue between “rigidity” (i.e. a consistent unit) and flexibility (i.e. his own ambiguous measure). He uses the variable foot as a way to control the interpretation of his text. By placing the line break after “wings” in the first line of “Between Walls,” Williams calls attention to the multiple implications of the word. The paradox is that Williams’ control over the poem—i.e. that each line is its own unit—actually allows for more flexibility in its interpretation.

Williams’ “Spring and All” is one of the canonical examples of his use of the variable foot. His use of enjambment is almost consistent throughout the entire poem. Consider the first two stanzas:

By the road to the contagious hospital  
under the surge of the blue  
mottled clouds driven from the  
northeast—a cold wind. Beyond, the  
waste of broad, muddy fields  
brown with dried weeds, standing and fallen  
  
patches of standing water  
the scattering of tall trees

The end of the second line suggests “the blue” is a noun. Within the context of the poem so far, “the blue” can be read as another way of referring to the sky. It is not until the

reader moves to the next line—the next variable foot—that “the blue” is recast as a descriptor for “mottled clouds.” Had this been written on a single line, there would have been no ambiguity as to whether “the blue” was its own contained unit; it would have been clear that it was an adjective belonging to “mottled clouds.” By introducing a line break, Williams fragments “the blue/mottled clouds.” “The blue” is its own semantic unit, but simultaneously belongs to the line that follows it. This happens again at the end of the stanza with the phrase “standing and fallen.” Instead of using a terminal caesura to mark the end of the line, Williams introduces a line break and white space. An initial reading of the line suggests that the “standing and fallen” refers to the “dried weeds” that precede it. The end of the stanza suggests that this is one coherent semantic unit: the “dried weeds, standing and fallen.” The next stanza complicates this as the “standing and fallen” now also refers to the “patches of standing water.” Unlike “the blue,” “standing and fallen” does not change in syntax; what shifts is the referent to which “standing and fallen” refer. Both of these examples are ways in which Williams complicates meaning through formal innovation.

As much as Williams imposes his constraints on his poem, it is up to the reader to “tease out” meaning, much like my earlier *Street Fighter* analysis. There are, of course, some differences between reading “Spring and All” and playing *Street Fighter*, but I want to highlight the way in which constraints function similarly in both texts. In *SF*, the “text actualized” is composed of the move lists for each character in the game. The player knows which button maps to which move, but it is up to her to interpret which move is appropriate at a given time. A player chooses how deeply to engage with the game system. Similarly, the variable foot is the base formal unit in “Spring and All,” which provides the reader with a consistent pattern with which she can structure her reading of the poem. The reader knows where each variable foot is (i.e. each line), but does not know the logic and reasoning behind each line break, which creates enough vagueness that she can read various interpretations from the text. One difference between *SF* and

“Spring and All” is that someone can read Williams without having knowledge of a variable foot. Baetens argues that the reader’s knowledge of an implemented constraint is crucial to her understanding the text (Baetens, “Free Writing”). This is a literacy issue and is not limited to poetry; not all *SF* players, for example, are aware of all the moves for a character. What is significant is that both *SF* and “Spring and All” create a consistent underlying structure, while simultaneously allowing for enough ambiguity for players and readers to form their own ways of reading the text. It is this space for interpretation that gives a text greater potential for expression.

### **‘Rigidity’ in Game Mechanics**

Consider a comparison of two similar games, *Super Meat Boy (SMB)* and the aforementioned *Limbo*. The latter is often heralded as a particularly expressive and artistic game, winning awards such as the IGF’s Excellence in Visual Art in 2010 and the Game Developers Choice Award for Best Visual Arts in 2011 (“Award Nominees”). As mentioned in the introduction, the player is in control of a small boy in a sinister environment, including the bodies of dead children and parasites that take control of the player’s direction. The art is entirely in monochrome, which contributes to the game’s tone. This is in contrast to *SMB*, which features bright colors and pixel graphics reminiscent of videogames from earlier generations. Based on aesthetics alone, *Limbo* appears to be the more expressive of the two games. The two are more similar when comparing their core mechanics. Both are two-dimensional puzzle platformers in which the main actions available to a player are the ability to move and jump. They are also both considered masocore games because of their difficult nature. Success often relies on trial-and-error, where the player attempts the same move or level repeatedly.

I refer to the work of Katie Salen and Eric Zimmerman in their 2004 book, *Rules of Play*. Their definition of a videogame as an experiential system is useful for contextualizing my comparison of the jump mechanic: how are the formal rules

organized such that it affects a player's experience of the game? I am limiting my analysis of *SMB* to the earlier levels to preclude the special abilities that are part of later gameplay. Similarly, I am ignoring the latter half of *Limbo*, which has a heavier emphasis on solving puzzles. I am focusing this analysis on each game's treatment of the jump mechanic. I contend that *Super Meat Boy* is actually more expressive than *Limbo*, in spite of the latter's reputation. Both games offer similar means through which a player gains pleasure, namely that of overcoming tension. This is a key element of any videogame, but changes depending on a number of variables, including genre, etc. The tension of a boss battle in a role-playing game (RPG) differs from a tactical attack in a real-time strategy game, for example. The latter puts pressure on the player to make decisions in real-time, while the former might be more an endurance challenge, as RPG bosses often spawn minions that the player must also fight. In both *SMB* and *Limbo*—as is the case for most masocore games—the player must nimbly navigate the given play space while avoiding hazards (e.g. saw blades, drowning).

Even though both games are in the masocore genre, there are subtle differences in the challenges that each game poses. *Limbo* presents surprise traps for the player, often catching them off guard. In the screenshot below, the player triggers a swinging bear trap when she walks underneath the platform (indicated by the left red arrow). There is no indication that a trap exists until the player triggers it. If the player attempts to outrun the swinging trap by continuing to run to the right, she triggers a second bear trap that swings in the opposite direction (indicated by the right red arrow). One possible solution is to dodge the first trap and outrun the second by backtracking to the left. The second trap, however, is also on a swinging rope. The player cannot run fast enough in order to avoid the second swinging bear trap. In order to avoid death, the player must trigger the first trap, backtrack to the left a few steps to dodge it, then immediately run to the right to dodge the second swinging trap. The player cannot deduce this solution until she is killed by both traps and learns how they work.





Figure 3-F

*SMB*, by contrast, offers puzzles like VVVVVV where the player can see the threats that lie ahead. Anthropy refers to this as “known fear,” where the challenge is not “because of what the player doesn’t know, but because of what she does” (Anthropy, “craft”). This is a different kind of difficulty for the player: it is not about the surprise of the unknown, but rather the resilience necessary to overcome a challenge that the player knows is achievable. The jump mechanic in *SMB* is an example of the latter difficulty. The screenshot below is of Level 1-15 of *SMB* called “Cactus Jumper.” In this level, the player must reach the goal at top of the screen (the pink character to the top left) while dodging saw blades that run in the directions indicated by the red arrows. All four blades fly out simultaneously every two seconds. The player immediately recognizes the threat and how to avoid it (i.e. jumping over the blades).

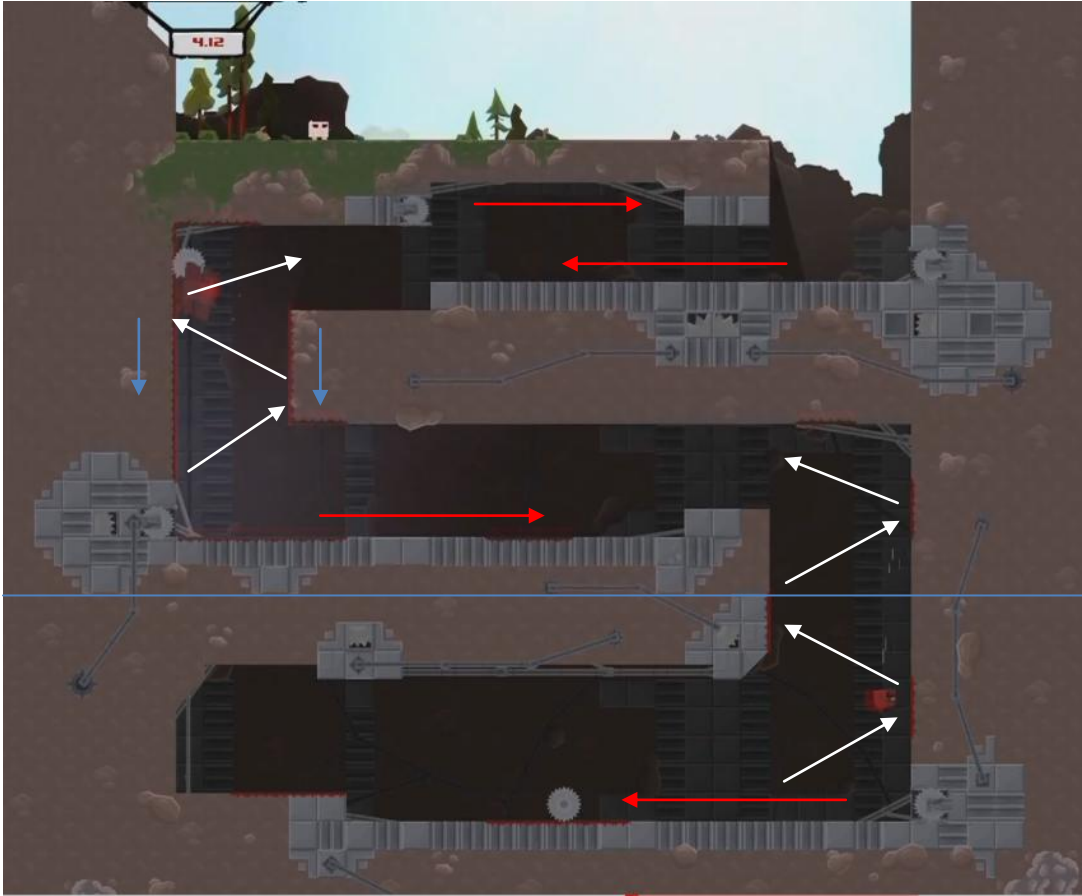


Figure 3-G: *The above screenshot is a composite of two attempts at this level. The first Meat Boy has successfully dodged the first saw blade. The second Meat Boy jumped directly into the third blade. Please note that the level is not visible to the player in its entirety. The perspective shifts to the top screen when the player reaches the second blade. The screen split is indicated by the horizontal blue line.*

The jump in *SMB* also allows for wall-jumping, which is how the player reaches the second blade. The lower Meat Boy in the above screenshot is about to ricochet off the wall—indicated by the lower set of white arrows—in order to reach the first platform. She then makes her way to the left across this first platform and must dodge the second blade, also by jumping over it. Again, she must ricochet off the wall in order to reach the second platform. She must repeat this strategy in order to reach the second platform. There is a trick, however: if the player ricochets up the second corridor in the same way

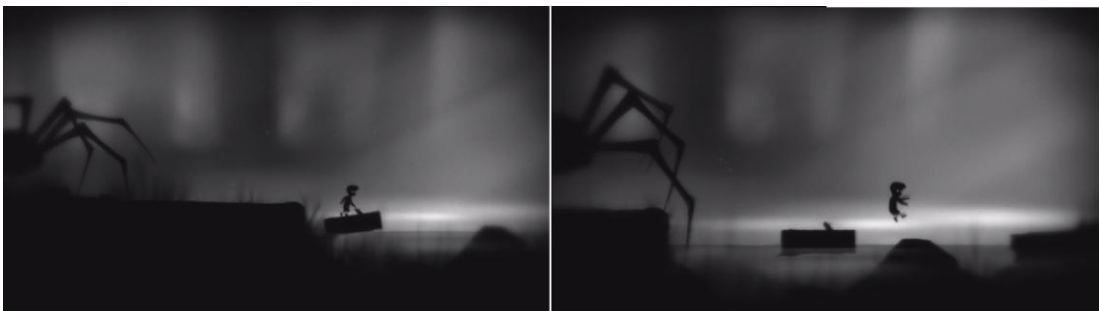
that she did the first—that is, jumping directly from wall to wall—then she will jump directly into the third blade, as indicated by the second Meat Boy in the screenshot. The level is designed in such a way that the player who maintains a constant rhythm from the beginning of the level will be punished by the third blade. That is, a player *cannot complete the level based on twitch-reactions alone*. As indicated by the blue arrow, the player must slide down either wall of the second corridor for a split second to wait for the third saw to shoot out. Then the player can jump up to the second platform and proceed to the top. The level design forces the player to reflect on her own play style.

This is like Williams’ treatment of a line of poetry. The reader cannot make sense of the text based on prior knowledge alone. Williams’ “green” might initially invoke natural imagery, but the reader’s assumptions are challenged by the “glass” in the next line. Her conventional methods of reading the text are inadequate; Williams designs the poem in order to highlight this. Similarly, the player cannot complete this level of *SMB* by timing her jumps perfectly, which is a common tactic for two-dimensional platformers. She must acknowledge and respond to the level design by consciously adjusting her jump to account for the timing of the third saw. The game’s jump mechanic is flexible enough to allow for a dialogue between the player and the designer via the game system. The designer communicates the tension in the level through the strategic placement of design elements (e.g. the blades) while the player responds with her mastery of the jump mechanic. She communicates to the designer that she is skilled enough to complete the level.

I return to *Rules of Play* to explain the difference between the jump mechanic in both games. Salen and Zimmerman outline four different components of a game system: objects, attributes, environments, and internal relationships (Salen and Zimmerman 51). The first three refer to elements within the computational system itself. *Limbo* and *SMB* are similar in these three elements: they both have objects—a blade or a neon sign—which have attributes—in both cases, death. These objects are located in each game’s

environment. The difference between either game's jump mechanic can be traced to its internal relationships. When a game system is analyzed as an experiential system—as opposed to Salen and Zimmerman's formal or cultural systems—internal relationships refer to the dynamics between the player and the system. The player is considered an integral component: “Because the players are the objects, their interaction constitutes the internal relationships” (Salen and Zimmerman 51). In *SMB*, this is reflected in the flexibility of the jump mechanic: the player is given that space to negotiate her jump within the context of the game environment. She can change directions mid-air, as well as adjust the jump distance. She can affect the latter by pushing the jump button with varied pressure, or by the avatar's speed prior to the jump (i.e. whether it is running or walking). This differs significantly from the jump mechanic in *Limbo*.

Immediately after the bear traps, the player is chased by a giant spider. If it gets too close to the player, it will stab and kill her. The player continually runs to the right to try and outrun the threat. She encounters a body of water, which is also hazardous to the player. There are a series of objects which are positioned to help the player get across safely. In the below screenshots, the first object is a log, which the player must push into the water. The player must jump on it and wait as it slowly floats across the water. There is an implicit timer imposed on the player because of the impending spider, so there is pressure to jump across the water as soon as possible. The player must wait, however, until the log floats far enough to the right before jumping to the small island. Conceptually, this section is quite suspenseful because the tension stems from whether or not the player can successfully complete each jump before the spider reaches her.



### Figure 3-H

In order to successfully cross the body of water, the player jumps at the last possible moment at every opportunity: first she jumps from the ledge to the log, from the log to the island, then from the island to the second log. This is true of most jumps in *Limbo*. In order to avoid a hazard, like a pit of spikes or falling object, the player must begin her jump at the furthest point on a given ledge. There is no question as to whether or not a player can make a jump; if a jump is unsuccessful, it is because the player's timing is off. By contrast, a jump in *SMB* is variable and its success is not guaranteed, thus producing tension. Furthermore, there are actually two kinds of jumps in *Limbo*: a shorter jump (light button press) or a long jump (harder button press). There are rarely any instances in which a shorter jump is needed. This makes gameplay monotonous: it makes no difference that there are two kinds of jumps because the player only needs one in order to effectively play the game.

The commonality between *Limbo* and *SMB* is the tension of whether or not a player successfully completes a jump. The difference between them is how the two games incorporate this tension into their respective rule systems. I return to Salen and Zimmerman and their four components of a game system. The player's avatar (i.e. the little boy) is an *object* that can only jump one of two exact distances. The jump distance is an *attribute* of the avatar. Whether or not a player successfully completes a jump is a question of whether or not she invokes the attribute. *Limbo* 'hardcodes' its tension: the jump distance is one of two absolute values and the player doesn't interact with it as much as she triggers it. If the player doesn't make the jump, she knows it is because she used the wrong jump (i.e. she didn't push the button hard enough) or she jumped too early. The player knows what to expect with each jump she makes and the tension is lost. This differs from *SMB*, which allows for the player to produce her own tension through interaction with the game system. Whereas *Limbo* relies on rigidly defined rules, *SMB* creates tension through its *internal relationships*. The flexible jump—changing direction

in midair, etc.—creates a space where the player can negotiate the game rules in order to overcome a challenge in the game. There is meaningful engagement with the game system: the player is not simply enacting a game rule, but manipulating it.

*Limbo* is a less expressive play experience than *SMB* because, as Williams would lament, it isn't "subtly enough made." The jump mechanic is too "staid" and doesn't allow the player to engage with the game system. *Limbo*'s design attempts to *embed* tension in every jump, rather than allowing the player to produce it herself (via the game system). This is like the "rigidity of the poetic foot" that Williams critiques insofar as the conventional metrical structure predetermines an authoritative, limited way in which the text can be read. *Limbo* tries to predetermine how the player experiences tension through gameplay. This is in contrast to Williams' variable foot, which maps well onto the jump in *SMB*. The varied measure of "Spring and All" is like the varied distance of a jump in *SMB*. Williams' line break introduces ambiguity to the act of poetic interpretation much like the indeterminate distance in *SMB* varies the tension of making a jump. Both games, as well as Williams and his poetics, demonstrate how constraint and flexibility are necessarily in dialogue with each other. Whether a text affords more or less interpretation to the reader or player is, paradoxically, a result of intentional, deliberate, and heavily authored design choices.

## CHAPTER 4

### CUBISM AND GAME DESIGN

The previous chapter discussed how a reader can access a modernist text through the constraints that structure it. Not all modernist poetry is as constrained as Williams' poetics. By contrast, high modernist poets like T.S. Eliot wrote texts that were much more similar to free form poetry. For example, Eliot's famous "The Waste Land" spans five sections and constantly shifts between various poetic conventions. The rhythm is inconsistent, there is seemingly arbitrary white space, and the text is constantly interrupted by phrases in other languages, song lyrics, or literary references (Ramazani et al. 948). Though "The Waste Land" appears to be the opposite of a constrained text, there are other structural elements through which a reader can parse the famously impenetrable poem. Eliot's use of literary references is one of the most notable characteristics of the poem; the footnotes that explain his allusions are almost as long as the poem itself.

This intertextuality is indicative of the modernist poetic tradition more generally (ibid). Intertextual references add to the semantic content of a poem, but also serve a structural function. They fragment the act of reading, interrupting the reader with allusions—often unidentifiable—to other texts. Intertextuality is not only limited to literature. Movements in visual art paralleled literary modernism; Cubism, in particular, was a large influence. By comparing Cubist elements in both visual art and poetry, I will extract elements that are demonstrative of the tradition, such as fragmentation and simultaneity. These are also present in 2008 videogame *Braid*, which is not to suggest that the game was designed to be intentionally or explicitly modernist. I compare the two—*Braid* and Cubism—to highlight ways in which the videogame medium can be expressive using techniques and strategies similar to those found in modernist poetry.

*Braid* is a game that is especially appropriate for this discussion because its main mechanics map so well to Cubism. The game is a two-dimensional puzzle platformer, except that the player has the ability to rewind time. If a player dies, for example, she simply rewinds time to the point before her death and continues to (re)play that particularly part of the game. Cubist elements are already relevant: the passage of time is no longer linear. Though time moves forward, it can just as easily move backwards as well. This temporal simultaneity is crucial to solving puzzles in *Braid*. Sometimes a puzzle requires the player to die in order to proceed. At the final stage of World 3, the player finds herself on the left side of a crevice with spikes at the bottom. She can easily jump the gap, but there is a locked door on the other side. The key is held by an enemy that immediately walks into the pit as soon as the level begins. There is no way for the player to retrieve the key from the enemy before it falls into the spikes.

The challenge is to retrieve the key—lying on the spikes—in order to unlock the door without the player herself dying. In a conventional game, this feat would be impossible. This is true for *Braid* as well: it is impossible for the player to retrieve the key without dying. The player must retrieve the key—killing herself in the process—before *rewinding time* to the point before she jumps into the pit. The key is now in her possession and she can jump across the gap to unlock the door. *Braid's* mechanics mean that time is fluid: the present does not only exist in the moment, but also in the past. The player must learn to move freely between the two in order to solve the game's puzzles. The conflation of disparate temporal planes is crucial to playing *Braid* and demonstrates how typically Cubist techniques can be similarly expressive across different media.

### **Revisiting Digital Materiality**

The relationship between artist Pablo Picasso and poet Gertrude Stein is an example of one such relationship that bridged visual and literary modernists. The latter of which is often interpreted as the literary equivalent of the former: Picasso used visual art



techniques to portray Cubist elements—e.g. perspective, repetition, fragmentation—while Stein used language to the same effect. While this one-to-one translation is an inadequate means of interpreting Stein’s work, it does offer value in highlighting the ways in which each medium plays with similar concepts. This analysis is one of media specificity, which N. Katherine Hayles discusses in “Print Is Flat, Code Is Deep.” This argument is not only important for my Picasso/Stein comparison, but also my larger analysis of poetry and videogames such that it will elucidate some of the modernist traits that I find fruitful for game design. Hayles wrote her 2004 article to call attention to critical analyses of various media. Texts are influenced by the medium in which they are written; Hayles argues that critics need to modify their vocabularies in order to discuss each text within their text of its respective medium. She calls this media-specific analysis (MSA) and emphasizes the *materiality* of each medium as the way to frame this discussion (Hayles, “Flat” 69). She writes about literary hypertext as it exists both in digital and print forms. Though the genre is typically associated with the former, Hayles uses MSA to identify characteristics of literary hypertext that appear in both media. In doing so, she suggests that texts have the possibility to produce meaning in ways that have yet to be considered.

Hayles’ discussion of MSA collapses the analog/digital binary. By flattening this dichotomy (i.e. electronic literature is superior to books, or vice versa), Hayles suggests that both media are effective means of creative expression, though do so through different constraints. For example, Hayles refers to Queneau’s “Cent mille” as the ‘analog’ counterpart to hypertext. Electronic hypertexts are fragmented and can be recombined through algorithms and digital manipulation (Hayles, “Flat” 77). “Cent mille” achieves the same effect, but does so through the affordances of its medium. The pages of the poem are cut into strips; the physicality of the printed page allows for this fragmentation to occur. MSA will inform my argument in two main ways: one discussion will trace visual art techniques (Picasso’s Analytic Cubism) as they are translated to modernist

poetry (Stein's portrait poems). I will also refer to the works of Marjorie Perloff, a scholar on modernist poetry. She abstracts the Cubist ethos as it is expressed through visual art in order to apply it to Stein's poetry. I use Perloff's interpretation of Cubism in Stein's poetry to frame my analysis of Cubism in videogames, particularly the game *Braid*. Stein herself wrote on the process of writing, which highlights some of her poetic methods, which also informs my methodology and analysis of the ways in which Cubist values are adapted to the videogame medium, as well as the ways in which literary Cubism translate to *Braid* specifically. The game takes existing videogame genre conventions and—in typical modernist style—fragments and multiplies them. One convention I discuss in detail is the locked door/key mechanic with which most players are familiar. *Braid* subverts player expectations of this mechanic in order to both “make it new” and “make it difficult.” My *Braid* analysis highlights ways in which Cubist elements can contribute to game design through creative level design and inventive game mechanics.

Hayles' article focuses on the difference between print and digital texts and, in doing so, argues for a reconsideration of a “text”(“Flat” 67). She does this through her focus on materiality; the physical characteristics of a text necessarily enter a relationship with its literary and rhetorical content. This relationship is dynamic and fluid (Hayles, “Flat” 72). Necessarily, these physical characteristics differ for each medium; MSA is necessary so as to create specific and precise vocabularies with which media theorists can analyze different texts. Hayles' argument informs my discussion of modernism and game design such that there is a flattening of the media. This act of equivocation is not uncommon in discussions of literature and the digital, such as Florian Cramer's “Digital Code and Literary Text.” He suggests that there is an affinity between language and code: “We can perfectly translate digital data and algorithms into non-digital media like print books, as long as we translate them into alphabetic signs” (Cramer). This argument is the diametric opposite of Hayles' in that Cramer completely ignores the influence of

hardware and focuses solely on the level of the symbolic. Cramer's work is useful in that it attempts to compare the complexities of both human and machine language through a kind of shared grammar. Syntax—both linguistic and procedural—is undoubtedly significant in the discussion of digital literature and poetry. However, it is akin to reducing Eliot's intertextuality to literary allusions: by limiting analysis to such a narrow scope, Cramer conflates the complexities of human and machine language, which consequently depreciates the value of either one.

Similarly, Hayles places both human and machine language on an even plane. Her analysis, however, acknowledges the differences between them, as well as the possible advantages therein. While Hayles acknowledges that MSA has precedents in other media theory—such as Marshall McLuhan—she uses this interplay to focus specifically on electronic literature. She outlines nine main characteristics of hypertext which can also operate in traditional literary texts, albeit through different means. Whereas Cramer overlooks the influence of medium specificity, Hayles uses these differences to structure her typology. This is not to create binaries of hypertext/non-hypertext, she argues, but rather to use the nine points as reference points from which theorists can consider “media-specific considerations of instantiation and simulation” (Hayles, “Flat” 74). This informs my own methodology insofar as I am using Cubism as a reference point from which I can compare modernist poetry and game design. The most valuable point in Hayles' article is the way she recontextualizes materiality to extend beyond the physical traits of the medium, stating that “interpretation cannot be generated by the apparatus alone” (“Flat” 71). Instead, the physicality of a text should be used to frame the way in which it expresses meaning in contrast to other media. Materiality is dynamic, rather than deterministic. My analysis focuses more on a text's “signifying strategies” than its physical properties (Hayles, “Flat” 72). A reader does not interpret the tangible artifact itself, but rather the text as it is structured by the medium, whether it is poetry or a videogame.

### Picasso's Geometry of Surfaces

Another thing Hayles' article highlights is that the method and means of creating a text is as integral to its interpretation as the writing itself. Her analysis focuses heavily on the materiality of texts, such that my analysis of Cubist paintings and poems would focus on types of canvases, paint and printed paper. Instead, I choose to focus on what Hayles calls "effects." Hayles refers to literature as an effect of the "interplay between form and medium" ("Flat" 69). Before I analyze the Cubist "effects" in *Braid*, I need to establish Cubist "effects" in other media and the way each medium configures its respective elements. This is the same strategy that Marjorie Perloff uses when comparing Picasso's Cubist style to Gertrude Stein's poetics. Perloff's work is useful for understanding Stein's process of writing, as well as her work in relation to other artists, whether visual or literary. Perloff begins her comparison by providing a foundation of what Cubist painting does:

The painting invites us to identify familiar forms and objects [...] at the same time as it prevents us from applying the test of consistency. It is impossible to "read" such a painting as a coherent image of reality. Whatever interpretation we advance is put into question by the appearance of contradictory clues. The ambiguity of the image is thus impossible to resolve. (Perloff, "Word-System" 72)

Fragmentation is a fundamental quality of the Cubist movement. It is a mode of representation that resists coherence; the viewer cannot immediately comprehend or access the work. Perloff discusses Picasso's 1912 painting "Ma Jolie." Individual geometric components can be seen—Perloff pays particular attention to a beige triangular plane in the lower left—but it is unclear to what this shape refers. "Ma Jolie," as well as Analytic Cubism as a movement, is characterized by distortion: "the precise location of discrete objects in some kind of illusory depth gives way to a volatile structure of dismembered planes whose spatial positions are ambiguous" (Perloff, "Word-System"

71). There is a simultaneous recognition and defamiliarization; viewers can identify typical elements of paintings, such as light, shape and stroke, but not what they signify. The distinct shapes and colours create depth, but the surface remains impenetrable and flat. Picasso uses these techniques as a way of alienating the viewer; a triangle could just as easily be the side of a face as it could the side of a table. The act of ‘reading’ the painting is as fragmented as the deconstructed human figure it supposedly represents.



Figure 4-A

Picasso’s Cubist methods give us “contradictory clues,” which is itself a paradoxical phrase. They allow viewers to navigate the “geometry of surfaces,” but also thwart any sense of direction. Perloff also writes that “Ma Jolie” also retains “representational traces,” such as a musical clef and the words “Ma Jolie” in block letters (ibid). She argues that this is evidence that Cubist painting engages in a dialogue with its referents and this characterizes the art form as such. Even if Picasso did not use letters or

musical notation, the visual elements he uses (e.g. shapes) necessarily correspond to things in the physical world so that viewers are able to make some sense of the work. This is an argument Stein uses when comparing painting and writing: “In writing about painting I said a picture exists for and in itself and the painter has to use objects landscapes and people as a way the only way that he is able to get the picture to exist” (Stein, *Write* 18). One of the characteristics of Analytic Cubism, then, is the use of relationships between symbols (i.e. in the composition) and references.

Interestingly, this is a characteristic apparent in Stein’s work. Perloff suggests that this relational composition (and consequently the comparison between Cubist painting and poetry) is most apparent in Stein’s portrait poetry, such as “Susie Asado.” Inspired by a Flamenco dancer, the poem is effective by evoking and recreating a ‘real’ dance. Whereas Picasso created a “geometry of surfaces,” Perloff argues that Stein uses similar techniques through her use of language and creation of “verbal planes” (Perloff, “Word System” 73). Each plane is a structural dimension of Stein’s poem; each of these dimensions enters a dialogue with an imagined dancer referent. The first two lines create a dance rhythm not unlike Flamenco:

Sweet sweet sweet sweet sweet tea

Susie Asado

The lines scan as such<sup>1</sup>:

/        /        /        /        /        `

/        `        //        `        /        `

The first line introduces a constant rhythm, while the second line acts as a “counterturn;” Perloff likens this to the sound of stamping feet, followed by castanets (Perloff, “Word-System” 74). This verbal plane is only effective in that it invokes ‘real’ dance rhythms.

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<sup>1</sup> A single slash indicates a heavy stress and an apostrophe indicates a weak stress. The double bars represent a medial caesura.

Picasso's referents are necessarily visual due to the constraints of his medium. While some poets visually configure language (concrete poetry being the most obvious example), Stein chooses aural referents. In both Cubist media, the texts create relationships with things that are familiar to the physical world, only to make them ambiguous, leaving the reader/viewer with "contradictory clues" with which to interpret them.

By creating references outside the text itself, Cubist texts anchor themselves in something familiar. It is through this connection through that which is already known that both Picasso and Stein are able to create their works. For a viewer to tackle what Perloff calls the "ambiguity of the image," she must be able to recognize that an image even exists at all. Other Cubist works—notably those in the Synthetic Cubist period—include physical referents, such as newspaper clippings in Picasso's "Still Life with Chair Caning." Perloff argues that these function as a kind of *trompe l'oeil* (Perloff, "Word-System" 72). Though traditional *trompe l'oeil* merely creates the illusion of three-dimensional space, the collage of both the real and the representational creates a literal "geometry of surfaces." This technique is not uncommon in contemporary art and is not limited to Synthetic Cubism, but speaks to one way in which the movement fragments its own mode of representation. Stein's interpretation of Cubist techniques—rather ironically—criticized them for being too limited:

The writer can include a great deal into that present thing and make it all present but the painter can only include what he sees and *he has so to speak only one surface* and that is a flat surface which he has to see and so whether he will or not he must see it that way. (Perloff, "Word-System" 71, emphasis mine)

Because a painter only has one surface (which I interpret to be the canvas), their representations are limited to what which fits inside the frame. This criticism seems rather reductive in that Stein equates the frame with a "flat surface," though it is useful in

that it emphasizes the notion of media specificity. Stein's comparison actually operates on two different levels: for painters, she assesses dimensionality through a spatial lens, whereas writers (according to her) operate on a temporal one. Writers bring things into the present; words serve as an anchor point in time. The "one surface" of a painting only allows viewers to look at the work 'now,' as it exists in the frame. The act of reading, by contrast, is linear, which introduces a temporal plane with which the writer can play. Stein's use of the word "present" in the above excerpt is itself an example of this. By repeating the word twice, it creates a connection through which the reader connects the first use of the word "present" with the second. In this way, Stein uses words as anchors through which she plays with the linearity of reading.

### **Stein's Literary Criticism**

Repetition is a key characteristic of Stein's writing and—though often delegated to style—plays an important structural role in her works. It is also an important part of Stein's method, which she calls "composition." Perloff explains composition in contradistinction to representation: whereas the latter is concerned with a connection between a signifier and a signified, the former solely plays with signifiers, not unlike the deconstructionists. There is a strong temporal element to Stein's composition, which she spoke about in a 1926 lecture: "The using everything brings us to composition and to this composition. A continuous present and using everything and beginning again" (Stein, "Composition"). The "continuous present" of which she speaks is reminiscent of Stein's comparison of painters and writers. Both works are always ever consumed in "the continuous present." A viewer takes in that which is in the frame while a reader reads linearly, one word at a time. The difference between the two media is that the "continuous present" in a literary text has the ability to fluctuate; Stein does this through repetition. "Sacred Emily" contains one of Stein's most infamous lines of poetry: "Rose is a rose is a rose is a rose" (Stein, "Emily" 186). Whereas representational texts would



tie “rose” to its referent, this line is instead a work of composition in that a rose is never defined as anything but itself. The verb “is”—rather than pointing to a description or explanation—only ever points back to the subject that it is defining. The rose “is” existing in the present tense, but exists multiple times, which proliferates the present as the reader scans the line. By having the present exist on multiple planes simultaneously, Stein does with words what Picasso did with Analytic Cubism: there are multiple points of reference that are recognizable, yet simultaneously resist a “coherent image of reality” (Perloff, “Word-System” 72). This undermines the accepted meaning of “is” in that it resists pointing to one subject or one moment in time.

Another feature of Stein’s work that is structurally significant is her use of punctuation—or, more appropriately, her lack thereof. This is particularly evident in any of Stein’s prose works and she herself acknowledges this as an intentional way of writing: “A question is a question, anybody can know that a question is a question and so why add to it the question mark when it is already there when the question is already there in the writing.” Perloff refers to this as “word order,” where the configuration of the sentence is so expressive, there is no need for punctuation (Perloff, “Syntax” 56). This is significant in two main ways: the first is that the lack of punctuation has an impact on the temporal act of reading. By removing almost all punctuation<sup>2</sup>, Stein removes all symbolic indications of when the reader must pause. It is similar to the repetition of a single word insofar as it enforces a “continuous present:” the removal of punctuation is also a removal of anchors with which a reader navigates a sentence. There are no markers to indicate clauses, or whether a sentence is declarative or interrogative. This seems like it would complicate the act of reading, forcing the reader to constantly pause to find her place in

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<sup>2</sup> Stein acknowledges the necessity for periods: “as long as human beings continue to exist and have a vocabulary, sentences and paragraphs will be with us and therefore inevitably and really periods will be with us.” (Stein, “Syntax” 56)

the sentence. By contrast, Stein's prose sentences are intelligible; as she describes it, "the question is already there in the writing" (ibid). The second significance of Stein's lack of punctuation is that it places emphasis on the notion of context. As Perloff suggests, Stein's sentences are crafted in such a way that their denotative meaning is unambiguous. This creates a paradoxical tension: as disorienting as Stein's writing is, it is still configured such that it can be expressive.

It is here that a connection emerges between Stein's work and game design. There are two elements that are particularly fruitful for this discussion: repetition and configuration. Both Stein's work and videogames—*Braid*, specifically—are effective because they are meticulously designed. It is the structure of the texts and the deliberate way in which its elements are configured that invoke the pleasure of reading and playing. Stein herself acknowledges this: "I really do not know that anything has ever been more exciting than diagramming sentences" (Perloff, "Syntax" 72). By the same token, I will diagram parts of *Braid* using Stein's repetition and configuration to inform my methodology. I will trace the jump action throughout the game and look at the ways in which it compares to Stein's use of language. Much like my comparison of Picasso and Stein, I hope that this analysis will highlight the ways in which two media address similar concepts through different methods and techniques. This analysis is also informed by game designer and critic Auntie Pixelante, who analyzed the jump mechanic in the first level of *Super Mario Bros.* as a way of looking at Shigeru Miyamoto's level design.

*Braid* is a 2008 puzzle-platformer that was originally released on Xbox Live Arcade. In addition to navigating platforms and gaps, as is standard for the genre, the player also receives various abilities that allow her to manipulate time. Each world features a different ability and the player must use these to solve each spatial puzzle and collect the puzzle pieces. The game begins with World 2, which introduces the player to the basic mechanics of the game. The level opens with a series of staggered steps, from which the player learns the extent of her normal jump, both in terms of height and

distance. The player then reaches a platform with an enemy walking back and forth, as well as a puzzle piece just out of the player's reach. If the player is too slow, she will bump into the enemy and die; as such, the enemy is a signifier and the signified is death. She discovers that jumping on the enemy will kill it, thus preserving her life, but also giving her some extra height. After discovering that a normal jump will not be enough to get the puzzle piece, the player learns to jump on the enemy, thus eradicating the threat and simultaneously collecting the puzzle piece. The enemy, while still a threat, is more significant as an aid to the player. Through this extremely rudimentary introduction to the game (no more than five minutes after beginning), *Braid* complicates the relationship between a signifier and its signified. The game uses this strategy to effectively create difficult puzzles and consistently challenge the player's assumptions of game conventions.

The game has minimal controls: walking forward, backwards and jumping. The introduction of rewinding time—*Braid*'s main mechanic—is not unlike Stein's position on punctuation. In a two-dimensional platformer like *Braid*, it is a given that moving 'forward' (to the right) is how to progress through the level. Similarly, 'forward' operates on a symbolic level as the passage of time: moving right moves the player in the future parts of the level. The very concept of being able to rewind time complicates this linearity. This is demonstrated most clearly in World 3-2: "There and Back Again." The puzzle piece is hidden behind a locked door, the key to which is on the highest platform of a series of three. Immediately left of the door is a vertical platform that is slowly lowering, threatening to close access to the door. The task is to retrieve the key, unlock the door, and retrieve the puzzle piece before the vertical platform reaches the ground. If the player attempts to jump to the highest platform to grab the key, it is impossible to reach the locked door in time. 'Traditional' game time—moving forward as progress—is actually counterproductive for the player. In order to retrieve the puzzle piece, the player must grab the key and rewind time to the very start of the level. By doing this, the vertical

platform is also rewound and returns to its starting position, which allows the player enough time to run to the door, unlock it, and retrieve the puzzle piece. This is not an uncommon tactic in playing *Braid*, where a player completes a task, only to have to rewind in order to navigate the same space to complete a different task. This kind of repetition functions similarly to Stein's use in language. The player evokes a game trope—move forward to progress—but represents it such that the mechanic changes the game mode in a different way.

One of *Braid*'s later levels implements Stein's poetics as she uses them in her literary works. World 4 introduces a twist to the time manipulation mechanic: the player still has direct control over rewinding time (there is a dedicated rewind button), but she also indirectly affects the passage of time through her movement. That is, game time does not proceed as normal, but only progresses as the player does: when the player moves 'forward' (right), time passes as usual. If the player moves 'back' (left), time moves backwards. If the player does not move at all, time stays still. This affects things in the level, most notably the movement of enemies. In World 4-3: "Just Out of Reach," the player must reach a key that is in a space too small for the player to reach. The only way to attain it is by having an enemy retrieve it for you. The problem is that the enemy only moves forward when the player moves forward and there is a wall that prevents the player from moving far enough to progress the enemy to the position where it can reach the key. The player can jump onto a higher platform in order to continue moving forward, which necessitates jumping off an enemy, thus killing it. Without the enemy to retrieve the key, the player is seemingly stuck. She must then rewind time (i.e. walk left) to the point just before she jumped on the enemy, which brings it back to life. She then walks far enough to the right so that the enemy is in possession of the key. She rewinds time to the point where she kills the enemy, which allows her to retrieve the key and proceed with the level.



Figure 4-B

This level is particularly complicated because of the repetition necessary to complete tasks. The player must kill and revive the same enemy, as well as jump to the same platform multiple times, each time as a different means to an end. In the same way that Stein wrote: “Rose is a rose is a rose is a rose,” the game design in *Braid* seems to argue that a “jump is a jump is a jump is a jump.” The ontological significance of each of the player’s movement—what a jump “is”—constantly changes. Moreover, there is no correlation between what a player has to do and what the player achieves: jumping on an enemy to jump higher does not necessarily ‘progress’ the game. Perloff’s conclusion of Stein’s repetition can just as easily apply to *Braid*: “[Repetition] does not intensify or heighten meaning. On the contrary, the reappearance of the word creates a peculiar gap in the text” (Perloff, “Word-System” 89). Just because a player has learned to jump a particular way to perform a particular task does not mean that that jump will always correspond to that task. The repetition of the jump mechanic does not help the player better understand the spatial puzzles, but rather complicates the game by offering more potential choices in order to arrive at the solution.

## CONTRADICTIONARY CLUES IN BRAID

Picasso and Stein used elements from their respective medium to create what Perloff refers to as “contradictory clues.” The finished works contain elements that are recognizable, like shapes or rhythm, but resist interpretation. While the clue itself is transparent as a symbol, it is not obvious what it might represent. *Braid* is a good example of this, using “contradictory clues” to challenge the player’s prior knowledge of game conventions. One common game trope is that of the locked door. If a player encounters one, it is implicit knowledge that she must look for a key, which will help her proceed in the game. The door is an unambiguous clue that the player will soon find a key. The same is true for the player if she finds the key first. Either way, both symbols are familiar indicators that guide players within a game. *Braid* uses the door/key convention, but defamiliarizes them; the puzzle is unlearning how this convention is typically used. In World 3 of *Braid*, the game introduces a new mechanic, which I will refer to as irreversibility. Some objects have a green glow, which indicates that they are impervious to any changes in time the player makes. For example, a green enemy walking towards the player will continue to do so, even if she rewinds time, which normally results in the enemy walking backwards along its path.

One level, “Irreversible,” uses contradictory clues particularly well. The player is trying to reach a puzzle piece that is located behind three successive locked doors, as seen in the screenshot below. The player finds a single key in close proximity to the doors. Under normal circumstances—i.e. without rewinding or irreversibility—one key can only open one door. If the player proceeds down the ladder to the left, she will find the other key, which is irreversible. The center door is also irreversible, which means that the player cannot rewind time to re-lock it once it is unlocked. While it seems counter-intuitive for a player to want to do this, re-locking a door also returns the key to the player, which is one strategy to consider while solving this puzzle. The main challenge is that the player must unlock three doors, but only has two keys.



Figure 4-C

In order to solve this puzzle, the player must use the second, glowing key on the first door. Because the key is irreversible, the player cannot rewind time in order to use it again. However, the first key that the player finds in this level is not glowing, thus can be reused. The player unlocks the glowing door with the normal key, which then uses up the key. She can then rewind time and retrieve the key, which has been restored to its normal state before unlocking the glowing door. The center door remains unlocked. The key is then used to unlock the final door on the right, gaining access to the puzzle piece.

The solution to this puzzle is counter-intuitive: because a player is familiar with the symbols of keys and locked doors, the obvious first move is to use the first key she encounters in order to unlock the first of the three locked doors. If the player does this, however, the rest of the puzzle cannot be solved and she cannot retrieve the puzzle piece. The keys and the doors are contradictory clues. The player recognizes these symbols as signifiers, but learns that they don't directly map onto their signified. Stein refers to this relationship between signifier/signified as representation (Stein, "Composition"). The signifiers appear transparent, but operate much like the way low diction does in Stein's

poetry: the reader can access the words, but it is not obvious how she should interpret them. The important similarity between Stein's poetics and "Irreversible" is the way in which they both complicate how their respective signifiers are understood. In "Susie Asado," the signifiers—the first two lines of the poem—do not correlate to the signified, which is itself ambiguous, whether it refers to Asado herself, Flamenco dance rhythms, or other readings of the poem. In *Braid*, the player understands that there is a connection between the key and the door, but the objects are contradictory clues, which is the source of the difficulty in this puzzle. The player knows that she must eventually unlock the door; the key symbolizes the solution, or progress in the game. The challenge is to remap this assumed metaphor and, by extension, figure out this semiotic gap within the context of the game.

### **COMPOSITION AND THE CONTINUOUS PRESENT IN GAME DESIGN**

Whereas "Irreversible" dealt with the relationship between signifier and signified, *Braid* also frames its puzzles around signifiers alone. Stein calls this composition and it works in contradistinction to her definition of representation. Instead of play between a signifier and a signified, Stein's composition solely deals with the play between signifiers. In a literary context, this strategy complicates the ways a reader could read a given text. There is a strong temporal element to composition, which is discussed in the next section. Its other significance in Stein's writing is how it opens up the interpretation of a text such that meaning is created between signifiers. This differs from representation, where the signifier relies on its relationship to a *preexisting* meaning of a signified or a referent. In Stein's poetry, composition is a way for the reader to infer her own meaning. A rose only ever "is" a rose; Stein does not offer any interpretation to the reader. Composition is especially relevant in World 5 of *Braid*, which offers the player a new mechanic. She still has the ability to rewind time, but when she does, the player creates a record of her previous actions. For example: a player starts the level at a door, runs to the



edge of the platform, then rewinds time. The *original* avatar (named Tim in the narrative) will start back at the door again, while a *clone* of the avatar (henceforth referred to as “clone Tim”) runs to the edge of the platform, just like the original Tim did before the player rewound time.

In the below screenshot, the player must retrieve a key in order to unlock a door on the top of the lattice. The red square marks the key’s original location at the beginning of the level. The player can climb the lattice and jump down from the upper platform in order to obtain the key, but then she is unable to make her way back to the locked door. The gap that separates the space is just wide enough that it is impossible for the player to jump across. Both the key and the door are glowing purple, which means that the clone is able to interact with them. The only way to solve this puzzle is to use the clone. The player must climb the lattice, retrieve the key, and attempt to jump over the gap. She will inevitably fail to get across. The length of the gap is significant: the player does not reach the left edge of the gap, but the key barely does. After this failed jump, the player must rewind to the beginning of the level, which triggers Clone Tim to repeat this path. The player, still in control of Original Tim, must wait by the left edge of the gap. When Clone Tim attempts to jump the distance—with the key his possession—the two Tims will make contact for a brief moment. In that moment, Clone Tim will pass the key to Original Tim just before the latter dies in the pit of spikes. Original Tim can then climb the lattice and unlock the door to retrieve the puzzle piece.



Figure 4-D

*Braid*'s clone mechanic is like Stein's composition in that play occurs between signifiers. What the latter does with poetic conventions (syntax, rhythm, etc.), the former does with game mechanics. In order to unlock the door, the player must control two signifiers: Clone Tim is a signifier of Original Tim, itself a signifier of the player. Original Tim represents how the player is allowed to interact with the rule system of *Braid*.

Stein's composition focuses on the temporal element of her work, specifically the creation of a "continuous present" by conflating the linearity of time. While this is a strong theme in the entirety of *Braid*, it is especially evident in World 5 with the clone mechanic. The previous section focused on the play between signifiers, but what is more significant is that the player must control both the clone and the original simultaneously. There is a flattening of time: the present proliferates as the player must simultaneously operate in the past and the future. In "Window of Opportunity," the player must accomplish the seemingly easy task of pulling a lever. As shown in the screenshot below, there are a number of platforms and doors, all of which resemble challenges that the

player has previously faced. The level does not look particularly difficult: the player must jump up to the platform with the ladder in order to fall onto the platform with the lever. The lever is necessary to get a puzzle piece later in the level. The actual challenge to the player—contrary to the previous example—is not making her way to the lever, but having to make her way back out. This requires the player to work with the clone in the continuous present.



Figure 4-E

Like “Irreversible,” the player must again unlock two doors with only one key. The only key available is held by an enemy that is pacing on the platform to the top right, as indicated by the red rectangle in the above screenshot. If the player unlocks either of the two doors, she will not be able to solve the puzzle. If she only unlocks the upper door, she will not be able to escape after pulling the lever. If she only unlocks the bottom door, she has no way of reaching the lever. The bottom door also functions as a platform so that the player can reach the ladder, but the player can only reach the door-platform by jumping from the platform on which the top door is located. The player must unlock the two doors, but cannot have them both unlocked simultaneously. The bottom door can

only be unlocked once the player reaches the ladder, otherwise she has no other way of getting there. The player must use Clone Tim to unlock the door after she—as Original Tim—is in position.

The player must first obtain the key from the enemy; a simple bounce will kill the enemy and give the key to the player. She can then jump to the ground and pause briefly before unlocking the bottom door. This pause is crucial to the completion of “Window of Opportunity,” which I explain in detail below. Even though the player unlocks the door as Original Tim, she is playing *as if she were Clone Tim*. That is, she is playing a particular way in the present in order to use it as a recording in the future. As soon as the door is unlocked, the player must rewind time and return to the upper right platform with the enemy and the key. This creates Clone Tim. This also returns the player to Original Tim, which I will henceforth refer to as Second Tim for the sake of clarity. The player must rewind to the point *just before* she obtains the key. When Clone Tim begins the recorded loop, it bounces on the enemy to obtain a key, just like Original Tim did during the player’s first run-through. Clone Tim does not kill the enemy, however, which allows Second Tim to do so and obtain the key. There are now two keys, two Tims, and two doors. I return to the crucial pause mentioned earlier: this is necessary so that Second Tim can unlock the top door and jump on the bottom door before Clone Tim unlocks it. If the player did not pause as Original Tim, Clone Tim would open the door and Second Tim would have no way of reaching the ladder. If the player—as Original Tim—timed it correctly, Clone Tim should unlock the bottom door just after Second Tim climbs the ladder. This gives Second Tim a way out after pulling the lever.

This puzzle is challenging because the player needs to consider how to play in the continuous present. The seemingly simple act of unlocking the bottom door is complicated: the present act is also strongly tied to both future and past play. Original Tim unlocks the door so that Second Tim can escape after pulling the lever. However, the player must also pay attention to the past: if she (as Original Tim) unlocks the door too

quickly, then she will trap herself later (as Second Tim) as she will be unable to reach the ladder. The player must unlock the second door, keeping future gameplay in mind while referring to something she's done in the past (i.e. the pause before unlocking the bottom door). The player must operate in the continuous present in order to solve "Window of Opportunity" such that she is playing on multiple temporal planes simultaneously. This is similar to the way Stein proliferates time in her poetry: she uses repetition in order to create a continuous present. The multiple Tims in *Braid* are like the multiple "roses" in "Sacred Emily" insofar as both objects refer back to themselves: a Tim is a Tim is a Tim is a Tim. There is no single point through which the player can anchor her sense of temporality. At other points in the game, there is better linearity, even in spite of the constant rewind mechanic. Referring to my example from the start of the chapter, the player must *first* drop the ring *before* she jumps on the enemy, *then* jump again on the second enemy in order to reach the puzzle piece. The player can anchor her sense of time through the constant flow of enemies from the cannon. In "Window of Opportunity," the player can only ever anchor her gameplay to herself: what the player does as Second Tim depends on what she did as Original Tim, which dictates how Clone Tim operates. The player must play as all three Tims in the simultaneous present as she tries to figure out the puzzle.

In comparing Stein to *Braid*, I do not intend to suggest that videogames should take design cues from poetry or literature. Hayles makes a similar argument about MSA; she is not arguing for "technological superiority," but rather the different traits that each medium offers to its texts ("Flat" 84). Stein does things with words that are uniquely expressive. Jonathan Blow, developer of *Braid*, does similarly expressive things in his game, though uses game mechanics instead of language. My reference to Stein and her radical poetics is not to suggest that distorting a game mechanic necessarily makes it better. By contrast, I think that this can easily be a sign of lazy game design and can very quickly lead to an unpleasant gameplay experience. Stein's methods instead point to

opportunities in which game design can do more with what already exists. She crafts her poetry in a very deliberate way so as to best exploit the traits of the literary medium. Stein does not introduce new forms of punctuation to ask a question, but instead uses the words themselves to express the interrogative. In the same way that Stein configures language to recontextualize its meaning, game design can explore different ways of crafting a ludic experience that offers more depth and engagement. My goal isn't to revolutionize game design, nor is it to criticize that which already exists. Stein's literary and poetic techniques offer a way to re-present that which is familiar in a way that is evocative and expressive. Carefully crafted game design can be as creative and pleasurable by applying similar concepts to videogames and exploring the affordances of the digital medium.

## CHAPTER 5

### CONCLUSION

#### Contributions to the Field

This thesis has discussed three ideas from poetry that are as expressive through videogame mechanics as they are through language. The first chapter looks at games that are poetic through their use of metaphor. The mechanics proceduralize concepts such that a player is embedded in the system, experiencing the concept rather than observing it. *Silent Conversation* is poetic because it maps the semantic content of poetry to its game mechanics, thus creating metaphors through which the player can interpret the poem itself. A game does not need to explicitly incorporate language in order to be metaphorical. The metaphor does not even need to be entirely cohesive for it to be meaningful. A game can be as symbolically rich by creating a disconnect between two domains. This contrast creates contradiction; the seeming incoherency is a point through which the player begins to explore meaning in the game. The player recognizes that the two mechanics in *Flock Together* are at odds with one another and interrogates this discrepancy, which encourages a critical engagement with the game and its internal rule systems.

As a player engages with a game on a deeper level, games can be meaningful by encouraging the player to reevaluate her own practices of reading and playing. Both poetry and videogames are categorized by conventions that readers and players use to anchor their interpretations. Familiarities in a text—like gravity in *VVVVVV*—provide a stable point from which a player can navigate the text. Without this anchor, a player must question all her previous assumptions about a mechanic or genre. Similarly, games that are extremely difficult, like the masocore genre, also require the player to engage with its rule system by demanding precision, accuracy, and perseverance. These narrow

constraints, while demanding, also necessarily enter a dialogue with the notion of freedom. A text, whether a game or a poem, can never be fully constrained; there must be some point of access for the player or reader. I refer to this as flexibility, in which there is a narrow space for a player to explore, even in spite of constraints. Williams structures his poetry to be flexible using enjambment: the way a word is interpreted is flexible depending on where the line breaks. He creates tension between constrained meter—his variable foot—and the freedom of semantic interpretation. This tension is also present in *Super Meat Boy*, in which a player plays with the flexibility of the jump mechanic in order to nimbly navigate threats and hazards.

Constraints are one way for a reader to make sense of a text; intertextuality is another and is a classic modernist strategy. Readers trace allusions across texts, like in T.S. Eliot's "The Waste Land." Intertextuality frames my final discussion of Cubism as it is expressed by three different media: visual art, poetry, and videogames. Pablo Picasso, Gertrude Stein, and Jonathan Blow are three important figures as each uses the affordances of their respective medium to create texts that are contradictory and complex. The deliberate design of each text creates a carefully constructed artifact which the viewer, reader, or player must deconstruct. Picasso's work conflates the spatial canvas of his paintings to complicate perspective and recognizable elements of visual art, such as shape or color. Stein uses similarly paradoxical perspectives, though she uses language instead. She uses punctuation and repetition to subvert the temporal patterns of reading. Blow uses similarly Cubist strategies in *Braid*, playing with the linear flow of time to encourage the player to question her understanding of game conventions, as well as the unique mechanics within *Braid* itself.

I use my discussions in these three chapters to return to the concept of excavation mentioned in the introduction. The examples in this thesis are by no means conventional. They use existing conventions, whether they are literary or digital, and use them to challenge traditional understandings of a given text. Readers and players must closely



examine a given text and pay attention to the way it works as a system in order to interpret it. These texts are meaningful in the way they reflect the player back to herself: by understanding a text, a player also understands something about herself. Appropriately mapped metaphors encourage a player to reconsider a particular concept, like friendship. She explores different elements of that value and interrogates her own understanding of it. Similarly, an overly demanding game system challenges a player to master its internal rules. The player must fully exhaust a particular mechanic, learning its concessions and limitations. Through this, she also learns the concessions and limitations of her own play style. The contradictory clues of Cubist texts have similar implications for the player. Because the text does not prescribe meaning between a signifier and a signified, the reader and player must resort to her own ingenuity in order to bridge this gap. She interrogates a text, as well as its signs, processes, and potential meanings. In doing so, she also explores herself and the ways in which she uses resources at her disposal to make sense of systems.

There is, of course, a finite limit to the meaning that a reader infers from a text: a player would be hard-pressed to read *Kirby's Dream Land* as an interpretation of Eliot's "Love Song," for example. The examples I discuss in my thesis are effective in their own right, but are not pedagogical: this is not an instructional guide for infusing games with meaning. The medium is broad and offers a range of games. Some of these are critical and expressive, and some of them are not. It is obvious to me that videogames can be more than vehicles for entertainment; I am not interested in discussing this. Whether a game is made to be 'serious' or superficial, I am interested in the artifact as a cohesive system where all each component—the rules, the narrative, the visual style—complements the other. This is how games are meaningful.

### **Future Applications**

This design philosophy is not limited to videogames. The scope of my analysis is fairly narrow: I do close readings of specific levels or game mechanics from independent games, most of which are two-dimensional platformers. Because my thesis has such a tight focus, there is plenty of room to expand my analysis for future applications. Each of the two media—poetry and videogames—have so much to offer in their own right. The poetic tradition spans a wide variety of genres, each of which is expressive using unique and distinct conventions. These could be useful in comparison to videogames, such as Bogost’s discussion of Imagist poetry and haiku in relation to *A Slow Year*. Similarly, there are other elements of videogames to be explored. My analysis focuses on game mechanics, though the game/poetry comparison can be reframed to discuss other elements of videogames, like the art style or sound design. I considered using the 2010 game BIT.TRIP.RUNNER as an example of a masocore game as it has similarly demanding mechanics. The player is in control of an avatar that automatically runs to the right. There are various obstacles in her path that she must dodge using prescribed commands, such as sliding, kicking, or jumping. Each of these commands is associated with a musical note. As the player progresses in the level, the notes compound to create a musical track. RUNNER operates like a masocore game in its fast-paced, demanding gameplay, but to label it as such seemed inadequate and reductionist. Discussions of music and game mechanics would be fruitful for exploring how each medium contributes to and enhances the other.

Similarly, the comparison to poetry is not simply limited to videogames and can extend to other forms of art, digital or otherwise. There are many works of art that use new media, such as screens, motion, or sound detection. These can be meaningful by incorporating more ludic elements to piece. Whereas conventional games strictly adhere to its internal rule system, art pieces have more flexibility for play and exploration. This also extends to non-digital works: like Hayles argues in “Print is Flat,” the claim of technological superiority is a fallacy. In the same way Queneau incorporated

procedurality into his work, non-digital games and art can create similar effects through the affordances of their respective media, be it language, the canvas, or something else entirely. I hope that one thing my thesis emphasizes is the way in which different media are capable of expressing similar concepts, values, and ideas. Any medium can be meaningful by invoking, exploring, and challenging existing techniques, conventions, and modes of interpretation.

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